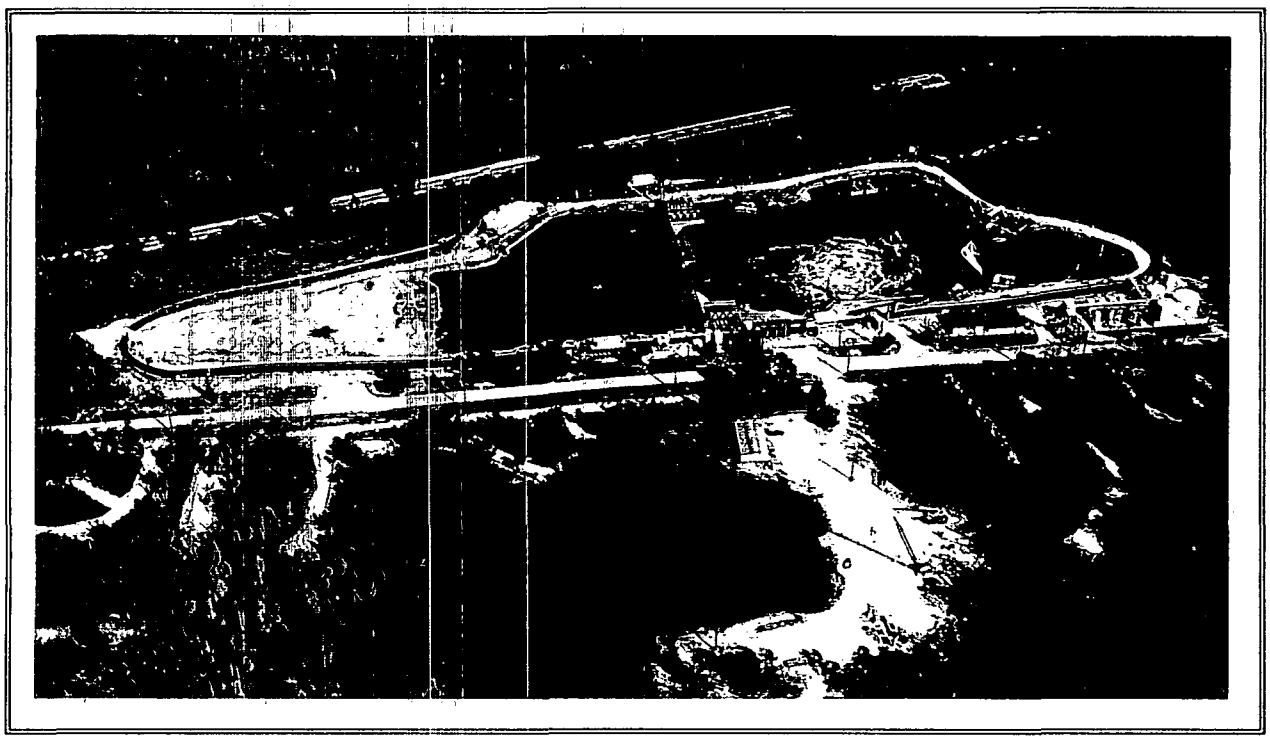
French Ltd. Project

FLTG, Inc.
Crosby, Texas

MONTHLY PROGRESS REPORT



Submitted to:

U.S. Environmental Protection Agency - Region 6
and
Texas Natural Resource Conservation Commission

June, 1995

French Ltd. Project

FLTG, Inc.

Crosby, Texas

MONTHLY PROGRESS REPORT

Submitted to:

U.S. Environmental Protection Agency - Region 6
and
Texas Natural Resource Conservation Commission

June, 1995

CONTENTS

CONTENTS (Continued)

CONTENTS (Continued)

CONTENTS (Continued)

LIST OF ILLUSTRATIONS

LIST OF FIGURES

LIST OF TABLES

CONTENTS (Continued)

CONTENTS (Continued)

LIST OF ATTACHMENTS

LIST OF APPENDICES

Samples Dated June, 1995

Project I.D.	Date Received	Project I.D.	Date Received
M03A0335	6/04/95	M04B0041	6/22/95
S17A0007	6/04/95	M01D0057	6/24/95
M03A0336	6/08/95	M03A0338	6/24/95
M03A0337	6/11/95	M04B0042	6/25/95
S17A0009	6/11/95	S14C0008	6/25/95
S17A0010	6/11/95	M03A0339	6/28/95
M04B0037	6/15/95	M04B0043	6/28/95
S16F0044	6/16/95	M06C0028	6/28/95
M04B0038	6/17/95	S14C0009	6/28/95
M04B0039	6/17/95	M08C0012	6/29/95
M04B0040	6/21/95	M08D0015	6/29/95

1.0 INTRODUCTION

This report covers the activities of FLTG, Inc. and the French Limited Project for June, 1995. FLTG, Inc. manages the project for the French Limited Task Group of Potentially Responsible Parties.

During June, 1995, the project team focused on the following activities and issues:

- Health, Safety, and Quality.
- Safety awareness.
- Contractor safety.
- Safety on multiple job assignments.
- HAZOP of daily work assignments.
- Detecting and correcting work place hazards.
- Vegetation evaluation in Cell E.
- Operation and maintenance of the aquifer remediation system.
- In-situ aquifer bioremediation.
- Water treatment plant operation and maintenance.
- Operation of the data base management system.
- Wetlands project construction.
- This report includes:
    - A summary of June activities, issues, and progress.

- Lagoon area activities.
- Groundwater and Subsoil Remediation activities, issues, and progress.
- Groundwater Treatment Plant activities and issues.
- Ambient Air Management.
- QA/QC status and data.
- Site management activities and issues.
- Wetlands restoration activities, issues, and progress.

2.0 SUMMARY

2.1 Summary of Activities and Progress

2.1.1 Health and Safety

Emphasized the safety issues associated with multiple job assignments and limited support personnel; emphasized the need to be flexible and responsive to personal limitations.

A minor finger cut when handling a well screen; only on-site first aid was required.

All site workers earned the June safety bonus.

Conducted safety meetings and job inspections at the start of each shift; reviewed safety issues before starting all jobs.

All employees and contractors attended daily safety meetings.

Conducted daily mini-HAZOP of all specific jobs.

Supervision made 160 specific on-the-job safety contacts.

Emphasized the causes, symptoms, and treatment of heat stress.

Inspected and certified all fire extinguishers.

Emphasized the hazards and precautions associated with working around moving equipment.

Conducted 22 specific health and safety inspections.

Logged all safety issues each shift; less than 24-hour response to all safety issues.

The daily raffle ticket safety awareness program has been effective in maintaining daily safety awareness among all site personnel and contractors.

Conducted personnel exposure monitoring, and all results were within acceptable levels. The most recent results are in Table 2-1.

2.1.2 Quality/QAQC/Data Base Management

The total quality process was used. The status of the goals is shown on Table 2-2.

All quality goals were met.

Raw data is being validated as per the plan.

The data base management system operated with no problems or delays.

There were no data or reports rejected due to errors.

American Analytical continued to provide quality data on time.

2.1.3 Lagoon

Maintained a high level of biological activity in Cell D; OUR and HMB were high. Added O_2 to Cell D using a downdraft aerator for six days.

Continued periodic subsurface injection of Cell D water in Cell E; there were no problems or issues, and adequate gradient control was maintained.

Continued evaluation of various tree and bush species for passive dewatering of the subsurface inside the floodwall.

Evaluating long-term surface water source options for the lagoon area.

Tested floodwall gate closure.

Tested the wall thickness at several locations below the groundwater elevation; there has been no corrosion or erosion.

2.1.4 Ambient Air Management

Ambient air quality was manually checked daily with portable TVOC analyzers, and no response action was required.

Air quality was continuously monitored in all potential exposure areas and on all special jobs.

Time-integrated samples were collected in three work areas, and the results indicated no exposure; the data is shown in Table 2-1.

2.1.5 Aquifer Remediation

Monitored status of DNAPL plumes.

Continued routine S1 oxygen injection in target areas.

Continued INT oxygen and nutrient injection in target areas.

Continued to evaluate ways to increase INT remediation rates in the INT-11 wall area and the SW area and to increase S1 remediation rated in the S1-63 area and the S1-121 area.

Started installation of six new INT pumping wells in the southwest area.

Evaluated various ways to decrease back-pressure on critical INT production wells.

Converting two INT pumping wells to injection wells; converted two INT monitoring wells to pumping wells.

Flows continued to increase in the sand fracture areas.

Operated vacuum-enhanced pumping systems for specific INT wells.

Issued weekly well status and performance reports.

Inspected and adjusted all wells each day.

Continued daily maintenance of recovery and injection wells.

Completed monthly well measurements and sampling; TOC levels continue to decrease; DO levels continue to increase.

Maintained O_2 content of injection water at about 40-45 ppm.

Shut off 4 more production or injection wells in areas that have reached aquifer remediation shut-off criteria; monthly sampling indicated no rebound and indicated favorable gradient control; monthly sampling indicated several well conversions and the installation of several new INT wells.

2.1.6 Groundwater Treatment

The treated water did not require carbon treatment to maintain effluent criteria.

There was no downtime.

Revised the sand filter operating procedures to accommodate low flows.

The water treatment plant effluent data is shown in Table 2-3. All effluent samples met criteria.

TOC input to T-101 continued to decrease.

The process operators collected all the process water and ground water samples.

2.1.7 Wetlands Restoration

Dewatering was required after every rainfall.

Completed final grading and topsoil replacement.

Corrected the flow channels to the river; the tidal flows met specifications.

The civil construction contractor completed work and demobilized from the site.

Started the 30-day level cycling to saturate the marsh areas with saltwater.

Reviewed status, progress, and issues with the TNRCC and other agencies.

Continued selective planting; located a nearby, compatible source for salt water marsh-type vegetation.

The 80 yd^3 yards of affected soils that had been excavated were sampled, classified as class II (non-hazardous), profiled, and shipped off-site for disposal.

2.1.8 Site Management and Issues

Used the on-site laboratory to process all the operational control samples.

Reviewed site progress and issues in detail with EPA and TNRCC on a regular basis.

Validated all analytical data as per the QAQC plan.

Reviewed project status and issues each day to ensure focus on critical issues - safety, quality, cost, INT zone progress, and wetlands construction.

Issued weekly cost, schedule, and maintenance reports.

Reviewed progress on issues and action plans each week.

Reduced aquifer remediation operational and maintenance requirements.

Reduced technical support MH's.

Reduced site security requirements.

Initiated agency oversight cost discussions with EPA.

Consolidated support facilities to north of Gulf Pump Road.

TABLE 2-1

Ambient Air Management
Time Integrated Exposure Data

Compound	PEL 8 hour PPM	1 7-Jun-95 WTP Operator % of PEL	1 7-Jun-95 WTP Operator PPM	2 7-Jun-95 Well Maintenance % of PEL	2 7-Jun-95 Well Maintenance PPM	3 7-Jun-95 T-101 Area % of PEL	3 7-Jun-95 T-101 Area PPM
Chloromethane	50	0.003	0.002	0.009	0.004	0.003	0.002
Bromomethane	5	0.000	0.000	0.000	0.000	0.004	0.000
Vinyl chloride	1	0.000	0.000	0.000	0.000	0.000	0.000
Chloroethane	1000	0.000	0.000	0.000	0.000	0.000	0.000
Dichloromethane	50	0.007	0.003	0.003	0.001	0.002	0.001
Acetone	750	0.001	0.004	0.000	0.002	0.000	0.001
Carbon disulfide	10	0.000	0.000	0.000	0.000	0.002	0.000
1,1-Dichloroethene	5	0.000	0.000	0.000	0.000	0.000	0.000
1,1-Dichloroethane	100	0.000	0.000	0.000	0.000	0.001	0.001
trans-1,2-Dichloroethe	200	0.000	0.001	0.000	0.000	0.002	0.003
Chloroform	10	0.011	0.001	0.000	0.000	0.217	0.022
1,2-Dichloroethane	10	0.000	0.000	0.000	0.000	0.008	0.001
2-Butanone	200	0.000	0.001	0.000	0.000	0.000	0.000
1,1,1-Trichloroethane	350	0.000	0.000	0.000	0.000	0.000	0.000
Carbon Tetrachloride	5	0.000	0.000	0.000	0.000	0.031	0.002
Vinyl acetate	10	0.000	0.000	0.000	0.000	0.006	0.001
Bromodichloromethane			0.000		0.000		0.000
1,2-Dichloropropane	75	0.000	0.000	0.000	0.000	0.000	0.000
cis-1,3-Dichloropropen	1	0.000	0.000	0.000	0.000	0.000	0.000
Trichloroethene	50	0.000	0.000	0.000	0.000	0.000	0.000
Dibromochloromethane			0.000		0.000		0.000
1,1,2-Trichloroethane	10	0.000	0.000	0.000	0.000	0.000	0.000
Benzene	1	0.124	0.001	0.014	0.000	0.032	0.000
trans-1,3-Dichloroprop	1	0.000	0.000	0.000	0.000	0.000	0.000
2-Chloroethylvinyl ether			0.000		0.000		0.000
Bromoform	0.5	0.000	0.000	0.000	0.000	0.000	0.000
4-Methyl-2-pentanone	50	0.000	0.000	0.000	0.000	0.000	0.000
2-Hexanone	5	0.000	0.000	0.000	0.000	0.000	0.000
Tetrachloroethene	50	0.000	0.000	0.000	0.000	0.000	0.000
1,1,2,2-Tetrachloroet	1	0.000	0.000	0.000	0.000	0.000	0.000
Toluene	100	0.000	0.000	0.000	0.000	0.000	0.000
Chlorobenzene	10	0.000	0.000	0.000	0.000	0.000	0.000
Ethylbenzene	100	0.000	0.000	0.000	0.000	0.000	0.000
Styrene	50	0.000	0.000	0.000	0.000	0.000	0.000
Xylene (total)	100	0.000	0.000	0.000	0.000	0.000	0.000
Hexane			0.006		0.001		0.001

TABLE 2-2

Project Quality

Status as of 06/30/95		Goals	
Yes	1)	No OSHA recordable injuries.	
Attention	2)	100% compliance with all safety rules and procedures.	
Yes	3)	No citations for violations of applicable, relevant and appropriate regulations.	
Yes	4)	100% attendance (including subcontractors) at daily safety meetings.	
Attention	5)	Less than 24-hour response time on health and safety issues.	
Yes	6)	100% sign-in and security clearance.	
Yes	7)	No invalidation of reported data due to QA/QC issues.	
	8)	Spend less than:	MH/Month
Yes	•	Direct hire	2,000
Yes	•	FLTG management	600
Yes/Attention	•	Technical support (3 people)	500
Yes	•	Maintenance support	80
Yes	9)	Pump at least 90 gpm; inject at least 60 gpm.	
Yes	10)	Remediate shallow alluvial zone aquifer in 60 months.	
Yes	11)	Hold analytical cost to less than $15,000 per month (1994 only).	
Yes	12)	No unscheduled overtime (per day or per week).	
Yes	13)	No agency contacts which require 3rd party resolution.	
Yes	14)	Documented training of site personnel for all work assignments.	
Yes	15)	Monthly audit of actual performance versus goals.	

TABLE 2-3
Treated Water Results Summary

Collected	Set No.	pH (6-9)		TSS 5 PPM		TOC 55 PPM		O&G 15 PPM		Benzene 150 PPB		Chlor HC's 500 PPB		Total PCBs 0.65 PPB		Napthalene 300 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
2-Mar-95	M03A0313	7.47		.5		8.5		2.5		2.5		145.		.16		5.	
6-Mar-95	M03A0314	7.49		1.		8.1		2.5		2.5		128.		.16		5.	
9-Mar-95	M03A0315	7.38		1.		8.		2.5		2.5		193.		.16		5.	
13-Mar-95	M03A0316	7.64		5.		7.2		2.5		2.5		111.		.16		5.	
16-Mar-95	M03A0317	7.55		.5		6.		2.5		2.5		150.		.16		5.	
20-Mar-95	M03A0318	7.41		.5		6.6		2.5		2.5		97.		.16		5.	
23-Mar-95	M03A0319	7.45		1.		6.		2.5		2.5		185.		.16		5.	
27-Mar-95	M03A0320	7.83		3.		12.2		2.5		6.		325.		.16		5.	
30-Mar-95	M03A0321	7.47	7.5	7.	2.2	11.9	8.3	2.5	2.5	6.	3.3	342.	186	.16	.16	5.	5.
3-Apr-95	M03A0322	7.42	7.5	1.	2.2	11.7	8.8	2.5	2.5	6.	3.7	269.	200	.16	.16	5.	5.
6-Apr-95	M03A0323	7.45	7.5	2.	2.3	12.2	9.1	2.5	2.5	6.	4.1	239.	212	.16	.16	5.	5.
10-Apr-95	M03A0324	7.38	7.5	2.	2.4	11.1	9.4	2.5	2.5	6.	4.4	230.	216	.16	.16	5.	5.
13-Apr-95	M03A0325	7.62	7.5	3.	2.2	12.9	10.1	2.5	2.5	6.	4.8	364.	245	.16	.16	5.	5.
17-Apr-95	M03A0326	7.59	7.5	11.	3.4	12.9	10.8	2.5	2.5	6.	5.2	247.	255	.16	.16	5.	5.
20-Apr-95	M03A0327	7.75	7.6	1.	3.4	12.1	11.4	2.5	2.5	6.	5.6	226.	270	.16	.16	5.	5.
24-Apr-95	M03A0328	7.67	7.6	13.	4.8	13.	12.2	2.5	2.5	6.	6.	269.	279.	.16	.16	5.	5.
27-Apr-95	M03A0329	7.51	7.5	1.	4.6	12.2	12.2	2.5	2.5	2.5	5.6	236.	269	.16	.16	5.	5.
1-May-95	M03A0330	7.63	7.6	1.	3.9	12.1	12.2	2.5	2.5	2.5	5.2	177.	251	.16	.16	5.	5.
4-May-95	M03A0331	7.91	7.6	4.	4.2	12.5	12.3	2.5	2.5	2.5	4.8	222.	246	.16	.16	5.	5.
8-May-95	M03A0332	7.95	7.7	4.	4.4	11.3	12.2	2.5	2.5	2.5	4.4	228.	244	.16	.16	5.	5.
11-May-95	M03A0334	7.97	7.7	4.	4.7	10.9	12.21	2.5	2.5	2.5	4.1	235.	245	.16	.16	5.	5.
15-May-95	M03A0333	7.87	7.8	8.	5.2	13.7	12.3	2.5	2.5	2.5	3.7	209.	228	.16	.16	5.	5.
18-May-95	M03A0335	7.73	7.8	6.	4.7	11.	12.1	2.5	2.5	6.	3.7	374.	242	.16	.16	5.	5.
22-May-95	M03A0336	7.88	7.8	1.	4.7	31.	14.2	2.5	2.5	6.	3.7	274.	247	.16	.16	5.	5.
29-May-95	M03A0337	7.76	7.8	1.	3.3	45.	17.7	2.5	2.5	6.	3.7	227.	242	.16	.16	5.	5.
5-Jun-95	M03A0338	7.53	7.8	.5	3.3	12.1	17.7	2.5	2.5	2.5	3.7	189.	237	.16	.16	5.	5.
12-Jun-95	M03A0339	7.78	7.8	1.	3.3	45.8	21.5	2.5	2.5	2.5	3.7	188.	238	.16	.16	5.	5.
19-Jun-95	M03A0440	7.68	7.8	5.	3.4	7.	20.9	2.5	2.5	2.5	3.7	144.	230	.16	.16	5.	5.
26-Jun-95	M03A0441	7.71	7.77	1.	3.1	9.1	20.6	2.5	2.5	2.5	3.67	128.	219	.16	.16	5.	5.
2-Jul-95	M03A0442	7.47	7.71														

Chlorinated hydrocarbons value is the sum of detected concentrations of 21 volatile chlorinated hydrocarbons on target compound list.

TABLE 2-3 (Continued)
Treated Water Results Summary

Collected	Set No.	As		Ba		Cd		Cr		Cu		Pb		Mn		Hg		Ni		Se		Ag		Zn	
		150 PPB		1000 PPB		50 PPB		500 PPB		15 PPB		66 PPB		300 PPB		1 PPB		148 PPB		20 PPB		5 PPB		162 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
2-Mar-95	M03A0313	23.		133.		.1		2.		1.		.5		15.		.1		8.		1.3		.5		6.	
6-Mar-95	M03A0314	17.		130.		1.		1.		3.		2.2		3.		.1		2.5		.5		.8		8.	
9-Mar-95	M03A0315	24.		111.		.1		.2		.8		.5		4.		.1		4.		1.3		.2		6.	
13-Mar-95	M03A0316	17.		121.		.1		.2		1.		.5		41.		.1		3.		1.3		.2		5.	
16-Mar-95	M03A0317	23.		114.		.1		.3		3.		.5		2.		.1		3.		1.3		.2		11.	
20-Mar-95	M03A0318	18.		112.		.1		.2		3.		.5		2.		.1		2.		1.3		.2		3.	
23-Mar-95	M03A0319	19.		119.		.1		.2		2.		.5		2.		.1		3.		1.3		.2		4.	
27-Mar-95	M03A0320	14.		130.		.1		3.		2.		.5		22.		.1		5.		1.3		.2		40.	
30-Mar-95	M03A0321	19.	19.3	132.	122	.1	.2	2.	1.	2.	2.	.5	.7	25.	12.9	.1	.1	6.	4.1	1.3	1.2	.2	.3	8.	10.1
3-Apr-95	M03A0322	17.	18.7	127.	122	.1	.2	.2	.8	2.	2.1	.5	.7	9.	12.2	.1	.1	1.	3.3	1.3	1.2	.2	.2	15.	11.1
6-Apr-95	M03A0323	23.	19.3	102.	119	.1	.1	.2	.7	1.	1.9	.5	.5	4.	12.3	.1	.1	1.	3.1	1.3	1.3	.2	.2	4.	10.7
10-Apr-95	M03A0324	12.	18.	157.	124	.1	.1	2.	.9	2.	2.	2.	.7	32.	15.4	.1	.1	4.	3.1	1.3	1.3	.2	.2	8.	10.9
13-Apr-95	M03A0325	44.	21.	107.	122	.1	.1	1.	1.	2.	2.1	.5	.7	11.	12.1	.1	.1	6.	3.4	1.3	1.3	.2	.2	3.	10.7
17-Apr-95	M03A0326	26.	21.3	171.	129	.1	.1	14.	2.5	2.	2.	1.	.7	108.	23.9	.1	.1	14.	4.7	1.3	1.3	.2	.2	17.	11.3
20-Apr-95	M03A0327	24.	22.	129.	130	.7	.2	7.	3.3	9.	2.7	2.	.9	43.	28.4	.1	.1	10.	5.6	1.3	1.3	.2	.2	34.	14.8
24-Apr-95	M03A0328	21.	22	115.	130.	.1	.2	7.	4.	1.	2.6	.5	.9	38.	32.4	.1	.1	6.	5.9	1.3	1.3	.2	.2	4.	14.8
27-Apr-95	M03A0329	24.	23.3	110.	128	.1	.2	2.	3.9	2.	2.6	.5	.9	12.	31.3	.1	.1	7.	6.1	1.3	1.3	.2	.2	9.	11.3
1-May-95	M03A0330	16.8	23.1	106.	125	1.1	.3	.7	3.8	.7	2.4	.5	.9	6.8	29.3	.1	.1	8.5	6.4	.8	1.2	.5	.2	.2	10.5
4-May-95	M03A0331	21.	23.5	149.	127	1.1	.4	5.9	4.4	1.	2.3	.5	.9	70.4	36.1	.1	.1	7.6	7.1	.8	1.2	.5	.2	16.2	10.6
8-May-95	M03A0332	16.	22.8	126.	130.	.1	.4	1.	4.5	1.6	2.4	.5	.9	6.	36.4	.1	.1	5.	7.6	1.3	1.2	.2	.2	4.	10.6
11-May-95	M03A0334	17.	23.3	158.	130	.1	.4	3.	4.6	.9	2.2	.5	.7	22.	35.2	.1	.1	6.	7.8	1.3	1.2	.2	.2	5.	10.3
15-May-95	M03A0333	17.	20.3	141.	134	.1	.4	2.	4.7	1.	2.1	.5	.7	21.	36.4	.1	.1	5.	7.7	1.3	1.2	.2	.2	4.	10.4
18-May-95	M03A0335	18.	19.4	122.	128	.1	.4	.2	3.2	.3	1.9	.5	.7	4.	24.8	.1	.1	3.	6.5	1.3	1.2	.2	.2	1.5	8.7
22-May-95	M03A0336	14.	18.3	130.	129	.1	.3	1.	2.5	.5	1.	.5	.5	9.	21.	.1	.1	5.	5.9	1.3	1.2	.2	.2	7.	5.7
29-May-95	M03A0337	16.	17.8	176.	135	.1	.3	2.	2.	.3	.9	.5	.5	27.	19.8	.1	.1	1.	5.3	2.8	1.3	.2	.2	4.	5.7
5-Jun-95	M03A0338	12.	16.4	191.	144	.1	.3	2.	2.	1.	.8	.5	.5	18.	20.5	.1	.1	4.	5.	1.3	1.3	.2	.2	5.	5.2
12-Jun-95	M03A0339	13.	16.	204.	155	.1	.2	1.	2.	1.	.8	.5	.5	2.5	20.	.1	.1	4.5	4.6	1.3	1.4	.2	.2	3.	5.5
19-Jun-95	M03A0340	14.	15.2	213.	162	.1	.1	1.	1.5	.8	.8	.5	.5	6.	12.8	.1	.1	5.	4.3	1.3	1.4	.2	.2	1.5	3.9
26-Jun-95	M03A0341	15.	15.1	155.	166	.1	.1	.7	1.4	.7	.7	4.	.9	2.	12.4	.1	.1	4.	4.2	1.3	1.4	.2	.2	6.	4.1

Metals values in PPB.

2.2 Problem Areas and Recommended Solutions

Problem	Solution
Maintain high level of safety awareness.	Daily raffle ticket program. Daily safety meetings. Safety meeting participation. Training. Regular HAZOP's.
On-the-Job safety attention.	Contact all employees at least twice per day on safety issues. Review job details as work proceeds. Stop and challenge approach.
Hazard detection and response.	Safety inspections. HAZOP's on all jobs. Constant awareness.
Low flow in some INT pumping and injection wells.	Vacuum enhanced pumping. Increase injection pressure in some areas. Decrease back-pressure on pumping wells. Add wells in target areas.
Low flushing rate in INT zone just SW of INT-11 wall.	Install two pumping wells and two injection wells; vacuum enhance the new pumping wells; consider specific well conversions.
Low flushing rate on SW corner just SW of floodwall.	Install six new pumping wells; convert two old pumping wells to injection wells; convert one monitoring well to an injection well.
Affected soil in excavation at wetlands project.	Secure the area; sample and analyze; re-route the excavation; review with City of Baytown officials; develop response action plan; remove and dispose of excavated, affected soil.

2.3 Problems Resolved

Problem	Solution
Wetlands civil work in wet weather.	Completed civil work.
Circulation in INT west of landfill.	Vacuum enhanced pumping well.

2.4 Deliverables Submitted

May, 1995 monthly report

2.5 Upcoming/Ongoing Events and Activities

Daily safety meetings and inspections.

Daily safety awareness program.

Emphasis on multiple work assignments.

Emphasis on hazard identification and response.

Attention to safety details.

Operate S1 and INT wells for expedited in-situ bioremediation.

Increase nutrient and oxygen circulation in specific INT areas.

Evaluate focused remediation in S1 and INT target areas.

Daily well pump checks and maintenance.

Aquifer compliance sampling in select areas and zones.

Run several natural attenuation modeling cases.

Injection of Cell D water.

Evaluate vegetation in Lagoon area.

Evaluate lagoon surface water source options.

Operate Data Base Management System.

Total Quality process.

Minimize carbon usage in Water Treatment Plant.

Develop lagoon closure plan.

Submit MCC-1 area remediation report.

Start brackish marsh area re-vegetation.

2.6 Key Staffing Changes

Reduced support staff by one person.

2.7 Percent Complete

Research & Development	- 98%
Facilities	- 100%
Slough	- 100%
Subsoil Investigation	-100%
Floodwall	-100%
Lagoon Remediation	-100%
Groundwater	- 84%
Lagoon Dewatering/Fixation	- 100%
Water Treatment	- 81%
Wetlands	- 95%
Demobilization	- 67%
Monitoring	- 64%

2.8 Schedule

All deliverables are on schedule.

Complete wetlands re-vegetation by September 1, 1995.

Complete active aquifer remediation by January 1, 1996.

2.9 Operations and Monitoring Data

The operations and monitoring data are submitted as parts of Sections 3.0, 4.0, 5.0, and 6.0 of this report, and the supporting data are stored in secure storage at the French project office.

2.10 Credits Accrued/Applied

Status of Credits

	Accrued this period	Accrued to date	Applied this period	Applied to date	Running total
December 1990	34	34	0	0	34
December 1991	0	100	0	0	100
December 1992	0	101	0	2	99
December 1993	0	104	0	4	100
January 1994	0	104	0	4	100
February 1994	0	104	0	4	100
March 1994	0	104	0	4	100
April 1994	0	104	0	4	100
May 1994	0	104	0	4	100
June 1994	0	104	0	4	100
July 1994	5	109	0	4	105
August 1994	0	109	0	4	105
September 1994	0	109	0	4	105
October 1994	0	109	0	4	105
November 1994	0	109	0	4	105
December 1994	0	109	0	4	105
January 1995	0	109	0	4	105
February 1995	0	109	0	4	105
March 1995	0	109	0	4	105
April 1995	0	109	0	4	105
May 1995	0	109	0	4	105
June 1995	0	109	0	4	105

2.11 Community Relations

Maintained 24-hour, call-in Hot Line.

Conducted four site tours for interested parties.

Contacted nearby local residents with update on site activities.

Contacted two Riverdale residents with well sampling results.

Supported Barrett Chamber of Commerce development project.

Supported Crosby Fair and Rodeo.

3.0 LAGOON

3.1 Summary of Activities

Evaluating test plots of various plants in Cell E.

Injected about 177,800 gallons of "clean" Cell D water in Cell E subsurface.

Operated aerator in Cell D to expedite biomass degradation.

Evaluating various options for gradient control inside the lagoon.

Evaluating several surface water source options for the area inside the migration wall.

Continued dismantling and disposal of scrap piping.

3.2 Problems and Response Action

Problem	Recommended Solution
Ground cover growth slow in Cell E.	Water frequently. Evaluate different grass blends and soil nutrients.
Poor tree growth in Cell E.	Evaluate different types of trees. Design an irrigation system.
Surface water source.	Develop list of options; evaluate realistic options.

3.3 Problems Resolved

None.

3.4 Deliverables Submitted

None.

3.5 Upcoming Events and Activities

Maintain pH, DO, OUR, and nutrient levels in Cell D.

Operate aerator/mixer in Cell D as required.

Inject Cell D water in Cell E subsurface.

Water Cell E and Cell F as required.

Maintain vegetation in Cell E.

Dismantle and dispose of surplus pipe.

Evaluate surface water source options.

4.0 GROUNDWATER AND SUBSOIL REMEDIATION

4.1 Summary of Activities

4.1.1 Operation of Production and Injection Well Systems

Operation of the production and injection wells systems during June 1995 is summarized in Table 4-1. Flows from the production well system are summarized in Table 4-2 and Figure 4-1. Flows into the injection well system are summarized in Table 4-3 and Figure 4-2. Individual well flows are summarized in Table 4-4.

4.1.2 Operational Monitoring

Operational monitoring associated with the groundwater and subsoil remediation system during June, 1995, is summarized in Table 4-5. Results of the annual GW sampling have been issued to the EPA and placed in the appropriate repositories.

4.1.3 Data Management and Evaluation

Operational monitoring data from the groundwater and subsoil remediation system for this reporting period were entered into FLTG's database. Tables and figures for this section of the Monthly Progress Report were generated from this database.

4.2 Problems and Response Actions

Groundwater production and injection rates were at or above the targets of both production and injection wells. The new goal for production well rates is 90 gpm. See Table 4-1. Nutrient and dissolved oxygen concentrations in injection water were at or close to target levels. No specific response action is planned.

Injection flows into the S1 wells and INT south of Gulf Pump were estimated for the month in June. Parts for the meters were misplaced in delivery and then calibrations took until the 26th before these flows were confirmed.

Table 4-1

Groundwater System Operation - June 1995 *Reporting Period: June 1-30 (30 days)*
Production System
No. of production wells: 113 (S1 unit, 53; INT unit, 60) No. of operational wells by end of month: 58 (S1 unit, 14; INT unit, 44)
Changes in system since last month: Shut off S1-20 and S1-21
No. of wells off line having reached criteria: 39 16 wells off inside lagoon
Groundwater produced: 4.1 M gal; 260.6 M gal since startup based on main meter Total production rate: avg. 94 gpm (target 90 gpm); range 84-117 gpm S1 production rate: avg. 42.7 gpm; avg. 3.1 gpm per metered well INT production rate: avg. 42.0 gpm; avg. 1.0 gpm per metered well Total flow rate apportioned between S1 and INT units based on individual well meter readings; average flows based on 30 days operation
TOC (non-volatile) concentration avg. 35 ppm; range 25-63 ppm TOC mass removed: 1,166 lb. (370,104 lb. since startup); 39 lb./day
Injection System
No. of injection wells: 67 (S1 unit, 21 [9 on line]; INT unit, 46 [30 on line])
Rainfall during period: 4.94 inches
Changes in system since last month: Shut off S1-66, -67, -68, & -59; INT-71 shut off for leaking seal
Groundwater injected: 4.0 M gal (160.2 M gal since startup) based on main meters
S1 unit injected: 1.3 M gal (87.1 M gal since startup) INT unit injected: 2.7 M gal (73.1 M gal since startup) Total injection rate: avg. 98.7 gpm (target 100 gpm); range 92-151 gpm S1 injection rate: avg. 43.0 gpm; avg. 4.8 gpm per well INT injection rate: avg. 55.7 gpm; avg. 1.9 gpm per well Total flow rate apportioned between S1 and INT units based on individual well meter readings; average flows based on 30 days operation
Oxygen added to injection water: 10,010 lb.; 333.7 lb./day used (input efficiency = 17%) Avg. DO in injection water: S1, 48.3 ppm; INT, 50.9 ppm (target 40 ppm) ⇒ 55.5 lb./day injected
Volume of 9.1% w/w KNO_3 nutrient solution added to INT unit, and 2 S1-North wells: 9,413 gal Nutrient flow rate: 313.8 gpd, 0.34% of INT + S1-North inflow rate (target 0.38%) Calculated injection water NO_3 concentration: 85.8 mg/L-N (target 50 mg/L-N)

Note that average monthly flow rates at individual wells (calculated from weekly individual well flow meter readings) are not used directly to determine S1 and INT unit inflows and outflows, but are used to apportion total production and injection flows (calculated from daily main production and injection meter readings) between S1 and INT units. Average flows are based on the 30 day reporting period.

Table 4-2

Daily Groundwater Production and TOC Removal
June 1995

Date	Project Day	T-101 Outflow Rate (FQ-101A) (gpd)	T-101 Outflow Rate (gpm)	T-101 Influent Ave. TOC (mg/L)	T-101 Influent TOC Loading (kg/day)
1-Jun	1240	135,300	94	26	13
2-Jun	1241	151,700	105	30	17
3-Jun	1242	168,700	117	30	19
4-Jun	1243	156,800	109	27	16
5-Jun	1244	151,400	105	34	19
6-Jun	1245	157,200	109	41	24
7-Jun	1246	128,500	89	48	23
8-Jun	1247	121,000	84	38	17
9-Jun	1248	123,000	85	34	16
10-Jun	1249	130,000	90	34	17
11-Jun	1250	143,300	100	38	21
12-Jun	1251	131,500	91	20	10
13-Jun	1252	123,900	86	33	15
14-Jun	1253	143,800	100	33	18
15-Jun	1254	148,500	103	30	17
16-Jun	1255	134,600	93	31	16
17-Jun	1256	109,700	76	32	13
18-Jun	1257	135,400	94	32	16
19-Jun	1258	137,700	96	25	13
20-Jun	1259	131,800	92	38	19
21-Jun	1260	130,600	91	63	31
22-Jun	1261	132,300	92	40	20
23-Jun	1262	131,600	91	33	16
24-Jun	1263	132,200	92	33	17
25-Jun	1264	131,600	91	34	17
26-Jun	1265	126,800	88	34	16
27-Jun	1266	121,900	85	42	19
28-Jun	1267	125,600	87	35	17
29-Jun	1268	142,500	99	32	17
30-Jun	1269	127,500	89	35	17
Month Average		135,547	94	35	18
Month Total		4,066,400		1166 lb	529

Table 4-3

Daily Injection Flows
June 1995

Date	Project Day	INT South INT-90/100 S1 North Injection Wells FQ905		INT North (not INT-90/100) Injection Wells Meter FQ-906		S1 South Injection Wells Meter FQ-909		Total Injection Rate		Oxygen	Nutrients
		(gpd)	(gpm)	(gpd)	(gpm)	(gpd)	(gpm)	(gpd)	(gpm)	lbs	Gallons
1-Jun	1240	38,500	27	47,100	33	45,000	31	130,600	91	255	352
2-Jun	1241	43,500	30	48,000	33	45,000	31	136,500	95	320	274
3-Jun	1242	43,500	30	47,300	33	45,000	31	135,800	94	315	304
4-Jun	1243	43,500	30	48,000	33	45,000	31	136,500	95	300	312
5-Jun	1244	43,500	30	47,500	33	45,000	31	136,000	94	410	281
6-Jun	1245	43,500	30	46,900	33	45,000	31	135,400	94	290	308
7-Jun	1246	43,500	30	47,700	33	45,000	31	136,200	95	300	293
8-Jun	1247	43,500	30	47,300	33	45,000	31	135,800	94	300	304
9-Jun	1248	43,500	30	46,500	32	45,000	31	135,000	94	260	528
10-Jun	1249	43,500	30	47,000	33	45,000	31	135,500	94	280	318
11-Jun	1250	43,500	30	47,500	33	45,000	31	136,000	94	455	304
12-Jun	1251	43,500	30	46,700	32	45,000	31	135,200	94	300	323
13-Jun	1252	43,500	30	46,800	33	45,000	31	135,300	94	395	323
14-Jun	1253	43,500	30	47,100	33	45,000	31	135,600	94	400	323
15-Jun	1254	43,500	30	42,200	29	45,000	31	130,700	91	300	296
16-Jun	1255	43,500	30	50,900	35	45,000	31	139,400	97	380	289
17-Jun	1256	43,500	30	47,200	33	45,000	31	135,700	94	280	270
18-Jun	1257	43,500	30	46,900	33	45,000	31	135,400	94	280	300
19-Jun	1258	43,500	30	47,700	33	45,000	31	136,200	95	340	312
20-Jun	1259	43,500	30	47,000	33	45,000	31	135,500	94	400	319
21-Jun	1260	43,500	30	46,700	32	45,000	31	135,200	94	300	331
22-Jun	1261	43,500	30	46,900	33	45,000	31	135,400	94	400	315
23-Jun	1262	43,500	30	47,800	33	45,000	31	136,300	95	300	308
24-Jun	1263	43,500	30	48,300	34	45,000	31	136,800	95	300	308
25-Jun	1264	43,500	30	47,900	33	45,000	31	136,400	95	340	315
26-Jun	1265	43,500	30	48,200	33	45,000	31	136,700	95	290	319
27-Jun	1266	43,500	30	45,300	31	43,200	30	132,000	92	420	258
28-Jun	1267	43,500	30	43,000	30	41,500	29	128,000	89	300	304
29-Jun	1268	43,500	30	42,600	30	38,000	26	124,100	86	280	334
30-Jun	1269	43,500	30	42,800	30	43,500	30	129,800	90	520	289
Month Average		43,333	30	46,760	32	44,540	31	134,633	93	334	314
Month Total		1,300,000		1,402,800		1,336,200		4,039,000		10,010	9,413

Table 4-4

Average Production and Injection Flow Rates - June 1995

Flow rates are averages for the period June 1 - June 30 (30 days)

S1 Production Wells (14)

Well ID	gpm
S1-1	OFF
S1-2	OFF
S1-3	OFF
S1-4	OFF
S1-5	OFF
S1-6	OFF
S1-7	OFF
S1-8	OFF
S1-9	OFF
S1-10	OFF
S1-11	OFF
S1-12	OFF
S1-13	OFF
S1-14	OFF
S1-15	OFF
S1-16	OFF
S1-17	1.6
S1-18	3.1
S1-20	OFF
S1-21	OFF
S1-22	1.3
S1-23	OFF
S1-24	OFF
S1-25	1.1
S1-26	3.8
S1-27	1.3
S1-28	4.5
S1-29	1.9
S1-30	5.1
S1-31	OFF
S1-32	4.6
S1-33	OFF
S1-34	OFF
S1-35	OFF
S1-36	OFF
S1-37	OFF
S1-38	OFF
S1-39	OFF
S1-40	OFF
S1-41	OFF
S1-42	OFF
S1-43	OFF
S1-44	OFF
S1-45	OFF
S1-46	OFF
S1-47	OFF
S1-48	OFF
S1-60	OFF
S1-61	1.8
S1-62	7.7
S1-63	3.6
S1-64	1.3
Total	**42.7**
Average*	**3.1**

* of metered wells

S1 Injection Wells (9)

Well ID	gpm
S1-18	2.3
S1-31	4.6
S1-49	OFF
S1-50	OFF
S1-51	OFF
S1-52	OFF
S1-53	OFF
S1-54	OFF
S1-55	3.8
S1-56	OFF
S1-57	OFF
S1-58	OFF
S1-59	0.4
S1-65	10.4
S1-66	OFF
S1-67	OFF
S1-68	OFF
S1-69	5.0
S1-70	4.8
S1-101	5.4
S1-133	6.3
Total	**43.0**
Average	**4.8**

Wells S1-18, S1-31 and S1-133 receive oxygen and nutrient amended injection water	
Subtotal	13.2

All other S1 wells receive oxygenated injection water only

Notes
OFF - well inoperative
NM - well running but not metered
PP - well in pulse pumping mode

INT Production Wells (44)

Well ID	gpm
INT-1	0.8
INT-2	0.4
INT-3	0.1
INT-4	0.2
INT-5	1.2
INT-6	0.2
INT-7	0.2
INT-8	1.5
INT-9	0.9
INT-10	4.1
INT-11	0.4
INT-12	1.4
INT-13	0.4
INT-14	OFF
INT-15	OFF
INT-16	OFF
INT-17	OFF
INT-18	OFF
INT-19	0.2
INT-20	0.1
INT-21	0.3
INT-22	0.2
INT-23	0.1
INT-24	0.5
INT-25	OFF
INT-26	0.5
INT-27	1.6
INT-28	0.6
INT-29	OFF
INT-30	OFF
INT-31	OFF
INT-32	OFF
INT-33	OFF
INT-55	1.0
INT-56	0.4
INT-57	2.4
INT-58	1.9
INT-59	0.3
INT-60	2.0
INT-61	1.2
INT-62	0.4
INT-65	OFF
INT-66	OFF
INT-143	0.2
INT-205	0.8
INT-206	0.6
INT-207	0.9
INT-208	2.7
INT-209	0.2
INT-210	1.5
INT-211	OFF
INT-212	2.0
INT-213	1.7
INT-214	OFF
INT-215	2.8
INT-216	OFF
INT-217	2.1
INT-228	0.2
INT-229	0.5
INT-230	0.5
Total	**42.0**
Average	**1.0**

INT Injection Wells (30)

Well ID	gpm
INT-63	2.3
INT-64	2.6
INT-71	OFF
INT-72	0.8
INT-73	2.0
INT-74	2.2
INT-75	0.3
INT-76	4.0
INT-77	3.3
INT-78	3.9
INT-79	0.7
INT-80	1.2
INT-81	4.2
INT-82	0.2
INT-83	1.1
INT-84	2.7
INT-85	OFF
INT-86	OFF
INT-87	OFF
INT-88	OFF
INT-89	OFF
INT-90	OFF
INT-91	OFF
INT-92	OFF
INT-93	OFF
INT-94	OFF
INT-95	OFF
INT-96	OFF
INT-97	1.0
INT-98	2.2
INT-99	OFF
INT-100	OFF
INT-201	OFF
INT-202	1.0
INT-203	0.4
INT-204	1.2
INT-218	1.2
INT-219	1.6
INT-220	1.3
INT-221	1.0
INT-222	3.1
INT-223	1.6
INT-224	3.1
INT-225	4.5
INT-226	0.6
INT-227	0.5
Total	**55.7**
Average	**1.9**

All INT injection wells receive oxygen- and nutrient-amended injection water

Note: total and average flow rates for S1 and INT units are corrected (per main flow meter readings) for use in Table 4-1.

Table 4-5

Operational Monitoring - June 1995

Activity	Frequency	Purpose
Check production and injection wells for pump, meter, and level control operation, injection pressure, and gas buildup.	Daily	Identify and respond to individual well problems; maintain operating efficiency.
Flow meter readings	Weekly	Identify and respond to individual well problems; maintain operating efficiency.
Read groundwater treatment plant inflow and outflow meters; nutrient injection flow meters; oxygen flows, pressure and temperature; and injection header back pressure.	2x daily	Identify and respond to treatment plant problems; control nutrient and injection flow rates.
Measure T-101 influent TOC.	2x daily	Track TOC removal.
Measure dissolved oxygen at 6 representative S1 and INT injection wells.	Weekly	Control oxygen injection.
Conduct water levels DO and TOC on 22 monitoring wells.	Weekly	Define progress of new INT wells and shut-off areas. Track DO breakthru.
Conduct water levels on shut-off wells.	Monthly	Track level recovery in shut-off wells.
Conduct TOC and DO on select production wells.	Weekly	Track TOC and DO levels in critical areas.

Figure 4-1

Production Flows

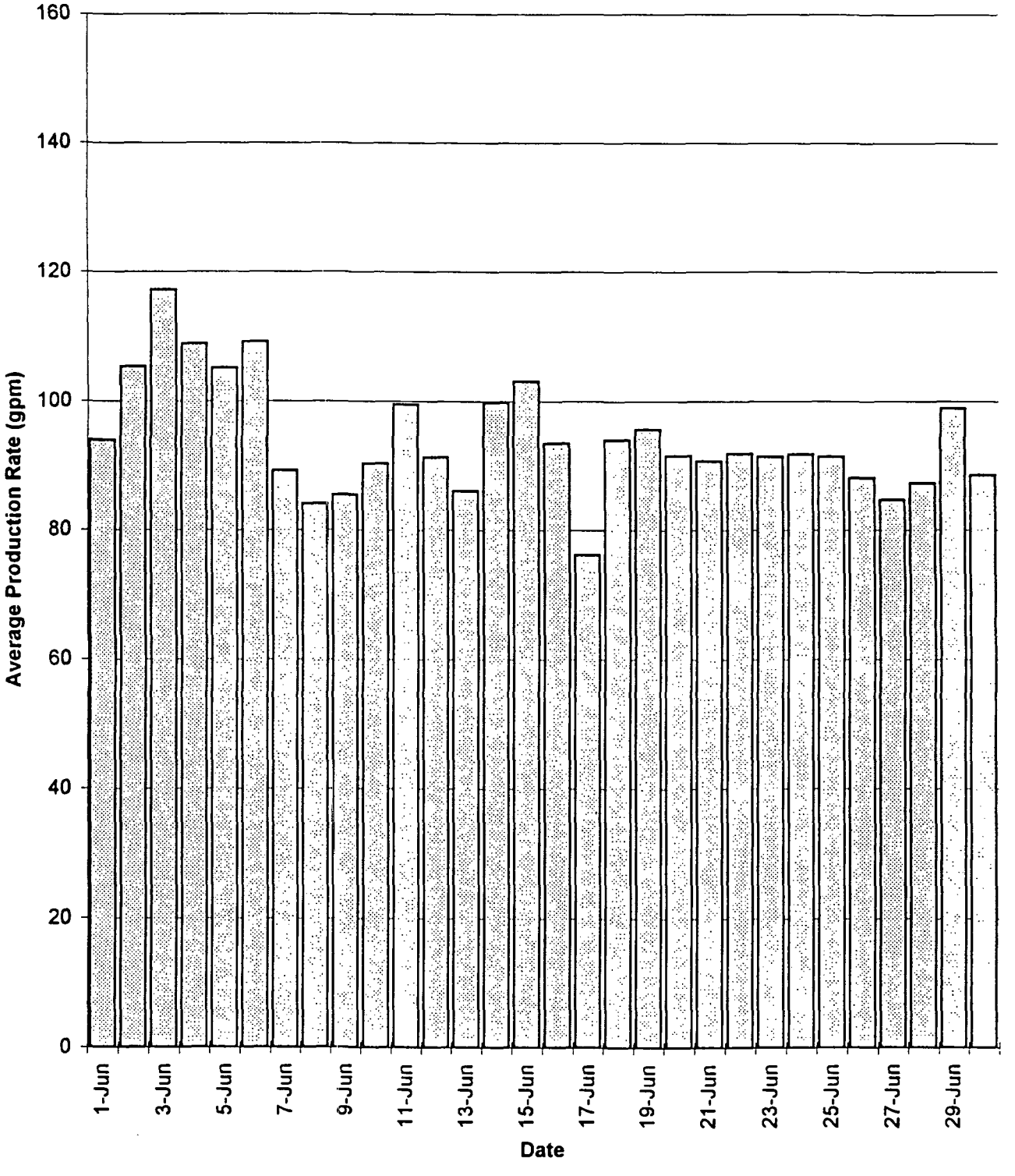
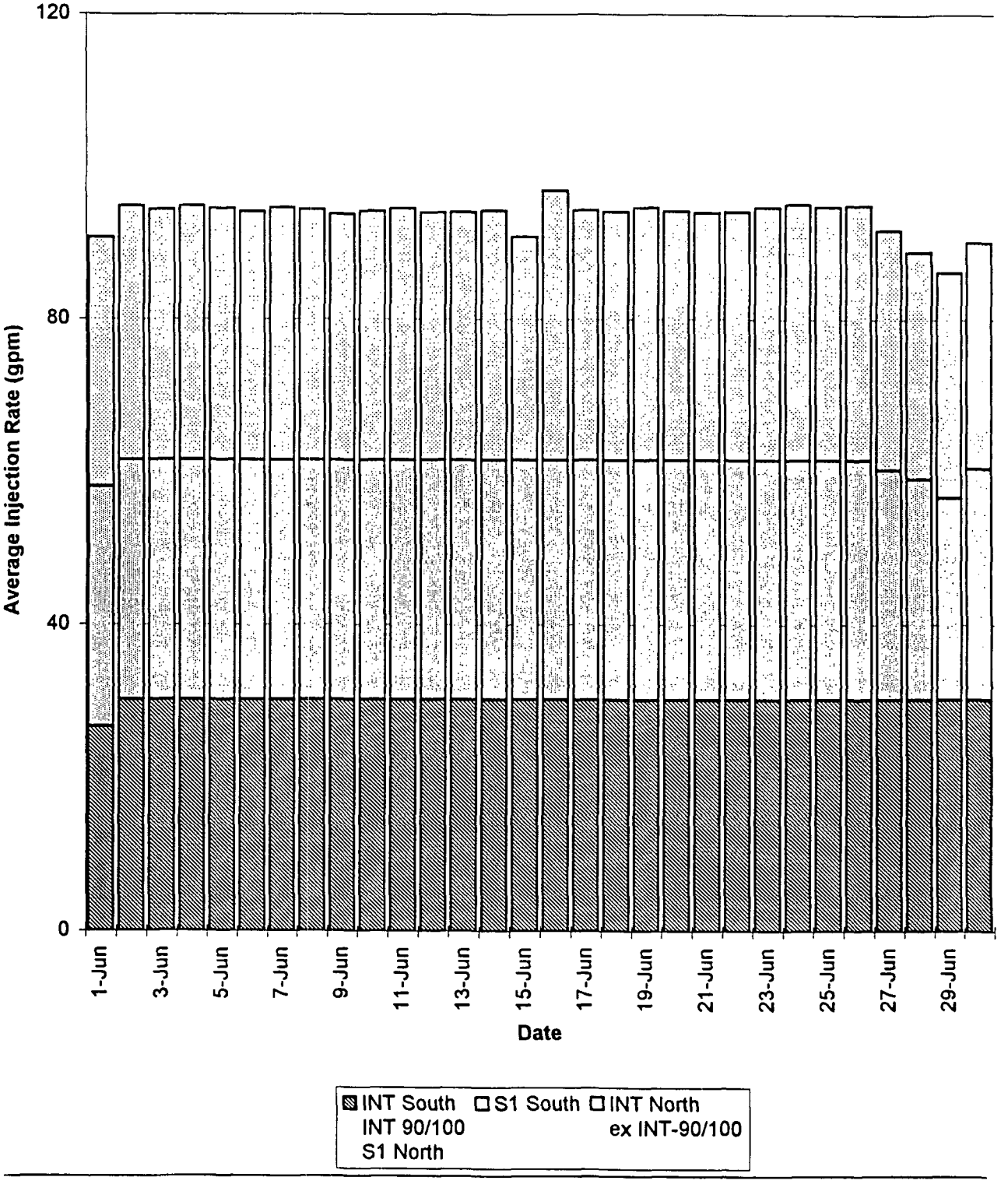
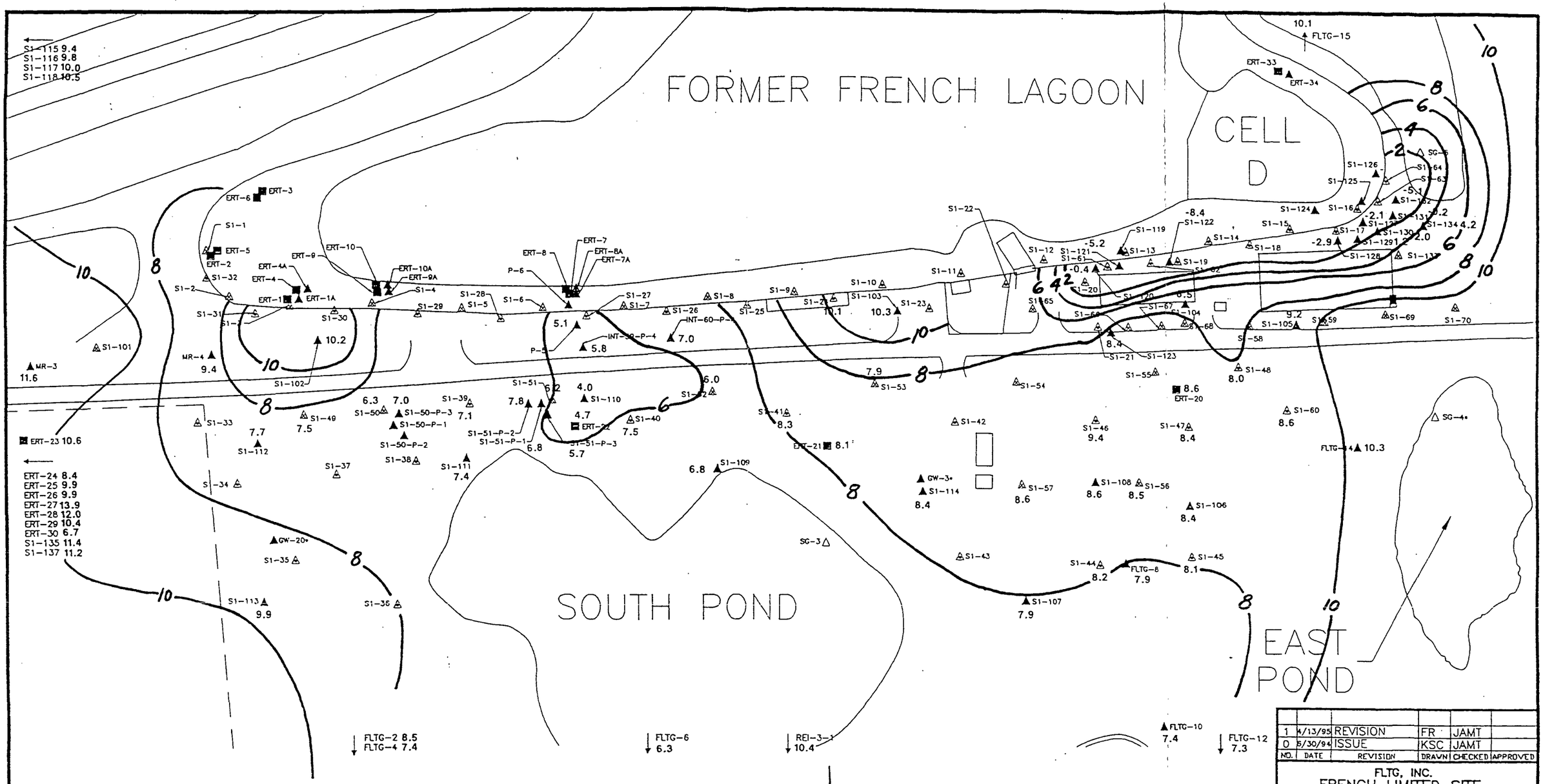


Figure 4-2

Injection Flows





LEGEND

- S1 INJECTION WELL
- S1 MONITORING WELL
- S1 PRODUCTION WELL
- S1/INT MONITORING WELL
- SURFACE WATER STAFF GAUGE

120' 0 120'

SCALE IN FEET

UNITS: FT-MSL

Applied Hydrology Associates, Inc.

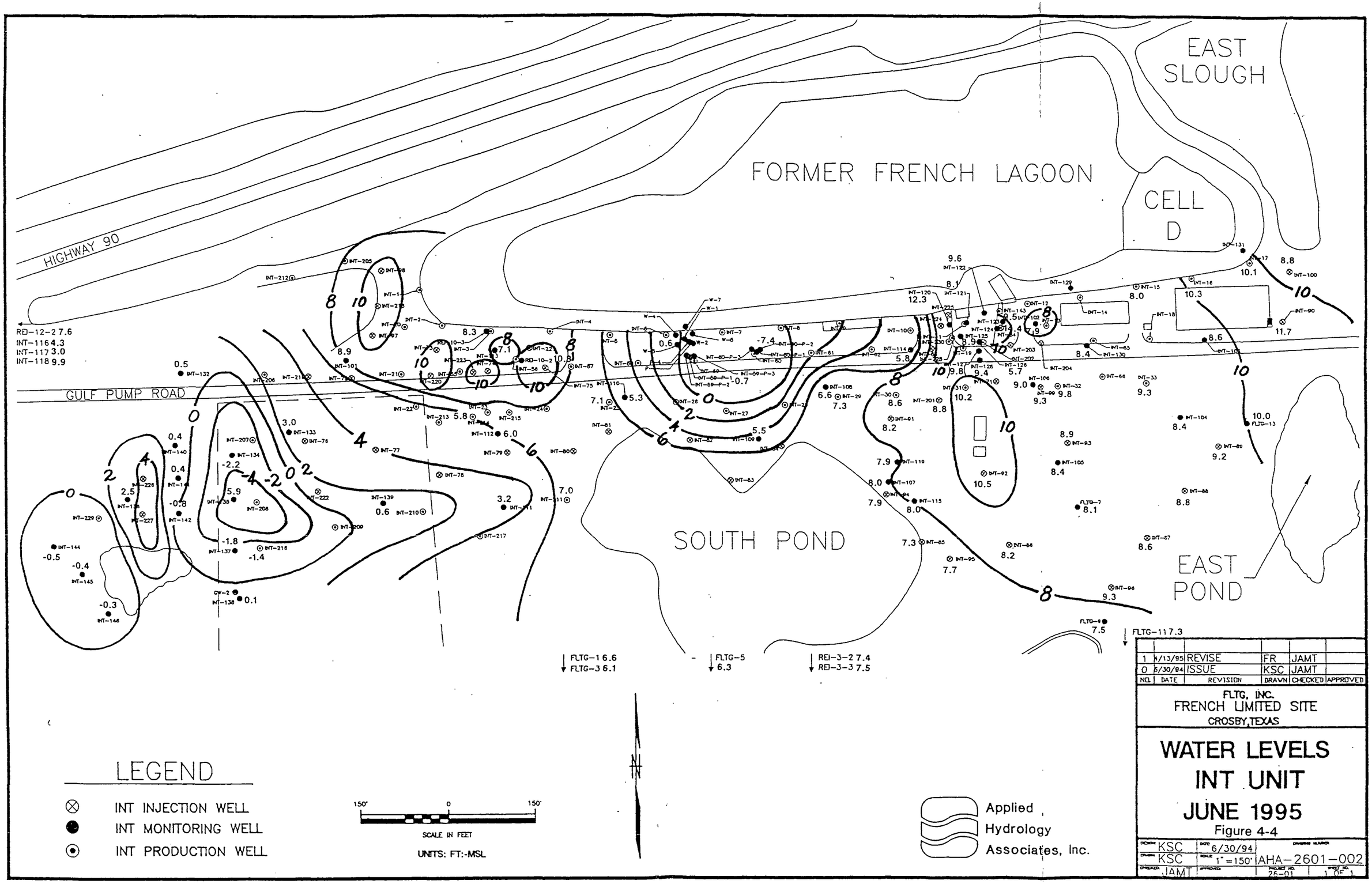
NO.	DATE	REVISION	DRAWN	CHECKED	APPROVED
1	9/13/95	REVISION	FR	JAMT	
0	6/30/94	ISSUE	KSC	JAMT	

FLTG, INC.
FRENCH LIMITED SITE
CROSBY, TEXAS

WATER LEVELS
S1 UNIT
JUNE 1995

Figure 4-3

DESIGN KSC	DATE 6/30/94	DRAWING NUMBER	
DRAWN KSC	SCALE 1"=120'	AHA-2601-003	
CHECKED JAMT	APPROVED	PROJECT NO. 26-01	SHEET NO. 1 OF 1



LEGEND

- ⊗ INT INJECTION WELL
- ● INT MONITORING WELL
- ⊙ INT PRODUCTION WELL

150' 0 150'

SCALE IN FEET

UNITS: FT:-MSL

Applied Hydrology Associates, Inc.

NO.	DATE	REVISION	DRAWN	CHECKED	APPROVED
1	9/13/95	REVISE	FR	JAMT	
0	6/30/94	ISSUE	KSC	JAMT	

FLTG, INC.
FRENCH LIMITED SITE
CROSBY, TEXAS

WATER LEVELS
INT UNIT
JUNE 1995

Figure 4-4

DESIGN KSC	DATE 6/30/94	DRAWING NUMBER	
DRAWN KSC	SCALE 1"=150'	AHA-2601-002	
CHECKED JAMT	APPROVED	PROJECT NO. 26-01	SHEET NO. 1 OF 1

Table 4-6

Schedule for Shut-Down of INT and S1 Pumping and Injection Wells

Date	Well #	Type (Prod. or Inj.)	Meter Reads	Flow Rate (gpm)	Operator tagged out
01-94	S1-35	Production			MC
	S1-43	Production			MC
05-94	S1-33	Production			MC
06-94	S1-34	Production			MC
06-94	S1-36	Production			MC
	S1-37	Production			MC
	S1-38	Production			MC
06-94	S1-42	Production			MC
	S1-23	Production			MC
	S1-5	Production			MC
12-94	S1-1	Production			WW
	S1-2	Production			WW
	S1-3	Production			WW
	S1-4	Production			WW
	S1-6	Production			WW
12-94	S1-7	Production			WW
	S1-8	Production			WW
	S1-9	Production			WW
	S1-10	Production			WW
12-94	S1-11	Production			WW
	S1-12	Production			WW
	S1-13	Production			WW
	S1-14	Production			WW
12-94	S1-15	Production			WW
	S1-16	Production			WW
	S1-58	Injection	Leaking seal		WW
January, 1995 converted S1-1 thru S1-9 to injection for recharge water table for vegetation.					
02-18-95	S1-49	Injection		1.30	
	S1-39	Production		8.50	
	S1-60	Production		4.50	
	S1-48	Production		2.50	
	INT-17	Production		0.12	

Table 4-6 (Continued)

Schedule for Shut-Down of INT and S1 Pumping and Injection Wells

Date	Well #	Type (Prod. or Inj.)	Meter Reads	Flow Rate (gpm)	Operator tagged out
02-19-95	INT-85	Injection		0.33	
	INT-86	Injection		1.00	
	INT-16	Production		0.16	
	S1-50	Injection		1.85	
	S1-19	Production		3.40	back on 2/22/95
02-20-95	S1-56	Injection		3.85	
	S1-57	Injection		2.50	
	INT-87	Injection		0.51	
	INT-88	Injection		1.33	
	INT-89	Injection		1.10	
02-21-95	S1-46	Production		20.0	
	INT-15	Production		0.85	
	INT-90	Injection		2.75	
	INT-100	Injection		0.10	
02-22-95	INT-99	Injection		2.75	
	INT-91	Injection		1.69	
	INT-92	Injection		3.00	
	INT-93	Injection		1.00	
02-23-95	INT-94	Injection		0.08	
	INT-95	Injection		1.30	
	INT-96	Injection		1.00	
	S1-44	Production		9.00	
02-24-95	INT-201	Injection		1.21	
	S1-51	Injection		0.70	
	INT-33	Production		0.18	
	S1-40	Production		10.0	
02-25-95	S1-52	Injection		1.12	
	S1-53	Injection		1.75	
	INT-32	Production		1.00	
	INT-31	Production		1.55	
02-26-95	S1-41	Production		9.00	
	S1-45	Production		3.00	
	INT-30	Production		1.63	
	INT-29	Production		3.00	

Table 4-6 (Continued)

Schedule for Shut-Down of INT and S1 Pumping and Injection Wells

Date	Well #	Type (Prod. or Inj.)	Meter Reads	Flow Rate (gpm)	Operator tagged out
02-27-95	INT-25	Production		0.40	
	INT-214	Production		5.10	
	INT-211	Production		1.90	
	INT-216	Production		0.70	
02-28-95	S1-24	Production		7.00	
	S1-31	Production		3.50	
	S1-47	Production		2.01	
	S1-18	Production		1.67	
4-13-95	INT-14	Production		.15	
	INT-18	Production		.44	
	INT-65	Production		.80	
	INT-66	Production		1.70	
6-5-95	S1-20	Production		3.81	
	S1-21	Production		11.02	
	S1-66	Injection		5.6	
	S1-67	Injection		8.0	
6-12-95	S1-59	Injection		5.7	
	S1-68	Injection		3.4	

4.3 Pending Issues

4.3.1 S1 Unit Pulse Pumping

No wells are on a pulse pump program this period. Schedule of well shut-off is included as Table 4-6.

4.4 Operational Refinements

Added INT-229 to vacuum enhancement program. Shut off S1-20 and -21 production wells, S1-59, -66, -67, and -68 injection wells . These wells have met criteria.

4.5 Data Summary and Discussion

4.5.1 Groundwater Production and Injection

Groundwater production target rates were adjusted to 90 gpm to compensate for the expanded shut-off. Injection rate target remains the same.

4.5.2 Groundwater Levels and Flow Directions

The current extent of contaminated groundwater is contained within the S1 and INT extraction system capture zones.

Water level contour maps are presented as Figure 4-3 (INT) and Figure 4-4 (S1).

4.5.3 TOC in shallow groundwater

TOC analyses on production wells were completed the first week in June. The analyses are in Table 4-7 and Table 4-8. The overall average TOC level continues to drop.

4.5.4 In-Situ Bioremediation

The emphasis continues to be to maximize delivery of oxygen and nutrients to the INT system. Dissolved oxygen analysis was conducted on the monitoring wells during the third well volume pumped.

4.6 Schedule

Drilling of six new INT wells: four at INT-20, -2, and -3 area and two in landfill INT-76 and -77 area. Convert INT-2 and -3 production wells and INT-113 monitoring well to injection wells. Convert S1-20 to injection well.

Table 4-7

HISTORY OF TOC CONCENTRATIONS
AT S1 PRODUCTION WELLS

Well ID	Baseline Nov-Dec 91 (ppm)	Sep 1994 (ppm)	Nov 1994 (ppm)	Dec 1994 (ppm)	Jan 1995 (ppm)	Feb 1995 (ppm)	Mar 1995 (ppm)	Apr 1995 (ppm)	May 1995 (ppm)	June 1995 (ppm)
S1-1	290	1,133	1,215	NS	1,592	NS	NS	NS	NS	NS
S1-2	190	1,251	NS	NS	1,044	NS	NS	NS	NS	NS
S1-3	370	566	750	NS	624	NS	NS	NS	NS	NS
S1-4	47	620	576	NS	582	NS	NS	NS	NS	NS
S1-5	51	NS	NS	NS	504	NS	NS	NS	NS	NS
S1-6	51	928	NS	NS	774	NS	NS	NS	NS	NS
S1-7	200	660	NS	NS	708	NS	NS	NS	NS	NS
S1-8	64	935	909	NS	708	NS	NS	NS	NS	NS
S1-9	77	567	NS	NS	1,520	NS	NS	NS	NS	NS
S1-10	46	567	2,001	NS	2,205	1,860	448	1,680	NS	NS
S1-11	120	2,510	1,825	NS	2,121	2,320	40	1,608	NS	NS
S1-12	140	2,355	1,086	NS	1,850	1,960	344	105	NS	NS
S1-13	520	1,077	960	NS	678	820	312	0	NS	NS
S1-14	590	1,440	1,000	NS	1,392	1,430	592	1,340	NS	NS
S1-15	5,300	2,583	1,450	NS	2,597	2,530	1,488	3,059	NS	NS
S1-16	8,900	NS	1,744	NS	1,050	330	136	288	NS	NS
S1-17	6,800	141	92	NS	73	76	72	46	29	30
S1-18	2,200	49	45	NS	24	37	72	23	NS	NS
S1-19	20	39	22	NS	14	16	32	18	13	NS
S1-20	120	60	43	NS	21	16	17	6	6	NS
S1-21	65	42	11	NS	6	3	11	15	BDL	NS
S1-22	290	64	31	NS	30	55	NS	199	135	196
S1-23	350	29	20	NS	13	12	NS	7	NS	NS
S1-24	250	42	17	NS	13	10	NS	19	NS	NS
S1-25	550	33	23	NS	13	13	NS	10	27	18
S1-26	540	49	16	NS	14	11	NS	10	25	16
S1-27	220	88	128	NS	25	31	NS	24	34	31
S1-28	370	21	18	NS	14	16	NS	10	31	22
S1-29	670	33	20	NS	16	11	NS	23	31	18
S1-30	370	86	28	NS	20	22	NS	15	NS	17
S1-31	14	29	25	NS	12	11	NS	NS	NS	NS
S1-32	18	73	40	NS	35	37	41	73	19	18
S1-33	10	567	NS	NS	NS	NS	NS	NS	NS	NS
S1-34	11	18	NS	NS	NS	NS	NS	NS	NS	NS
S1-35	24	37	NS	NS	28	NS	NS	NS	NS	NS
S1-36	200	39	NS	NS	NS	NS	NS	NS	NS	NS
S1-37	13	36	NS	NS	NS	NS	NS	NS	NS	NS
S1-38	59	22	NS	NS	NS	NS	NS	NS	NS	NS
S1-39	290	17	NS	NS	10	12	NS	NS	NS	NS
S1-40	150	17	18	NS	18	21	NS	NS	NS	NS
S1-41	170	16	NS	NS	10	16	NS	NS	NS	NS
S1-42	88	22	NS	NS	NS	NS	NS	NS	NS	NS
S1-43	4	14	NS	NS	NS	NS	NS	NS	NS	NS
S1-44	280	28	NS	NS	9	19	NS	NS	NS	NS
S1-45	4,400	24	NS	NS	10	32	NS	NS	NS	NS
S1-46	480	24	10	NS	4	11	NS	NS	NS	NS
S1-47	1,200	31	NS	NS	24	28	NS	NS	NS	NS
S1-48	1,200	22	NS	NS	15	22	NS	NS	NS	NS
S1-60	48	17	NS	NS	8	14	NS	NS	NS	NS
S1-61	NS	366	152	NS	78	116	108	63	23	16
S1-62	NS	27	18	NS	20	14	11	3	4	7
S1-63	NS	241	150	NS	155	120	70	47	27	24
S1-64	NS	66	55	NS	44	50	43	61	52	29

NS = Not Sampled

Table 4-8

HISTORY OF TOC CONCENTRATIONS
AT INT PRODUCTION WELLS

Well ID	Baseline Nov-Dec 91 (ppm)	Sep 1994 (ppm)	Nov 1994 (ppm)	Dec 1994 (ppm)	Jan 1995 (ppm)	Feb 1995 (ppm)	Mar 1995 (ppm)	Apr 1995 (ppm)	May 1995 (ppm)	June 1995 (ppm)
INT-1	3,600	320	253	NS	204	270	273	369	172	212
INT-2	1,800	281	214	NS	91	492	563	253	692	741
INT-3	5,200	932	1,550	NS	1,016	940	624	561	452	270
INT-4	610	430	NS	NS	198	180	209	229	149	128
INT-5	960	103	90	NS	76	70	45	87	68	72
INT-6	280	195	100	NS	76	72	46	65	68	65
INT-7	100	101	38	NS	120	123	NS	116	102	115
INT-8	75	64	43	NS	47	45	NS	47	43	43
INT-9	800	70	NS	NS	68	58	NS	72	129	154
INT-10	1,900	82	135	NS	45	45	20	55	56	62
INT-11	590	113	31	NS	31	27	29	50.4	43	23
INT-12	3,300	74	23	NS	32	16	31	72	65	146
INT-13	590	50	23	NS	34	12	NS	11	9	11
INT-14	24	119	53	NS	39	50	54	0	NS	NS
INT-15	19	47	18	NS	17	16	NS	NS	NS	NS
INT-16	2,000	68	9	NS	6	11	NS	NS	NS	NS
INT-17	7	19	14	NS	8	14	NS	NS	NS	NS
INT-18	4	57	29	NS	24	20	31	35	NS	NS
INT-19	1,400	38	39	NS	56	49	NS	38	714	36
INT-20	3,500	1,182	NS	NS	1,480	1,476	1,425	998	1480	1080
INT-21	29	190	NS	NS	204	132	540	188	200	240
INT-22	8	95	NS	NS	117	135	199	160	135	110
INT-23	16	112	NS	NS	35	40	30	NS	29	48
INT-24	240	84	65	NS	58	56	NS	47	48	42
INT-25	38	29	NS	NS	20	18	NS	NS	NS	NS
INT-26	120	122	123	NS	110	108	NS	107	76	80
INT-27	180	79	80	NS	65	75	NS	65	50	52
INT-28	630	37	23	NS	22	26	NS	47	37	60
INT-29	1,100	76	58	NS	35	40	NS	NS	NS	NS
INT-30	1,400	45	24	NS	27	20	NS	NS	NS	NS
INT-31	70	82	30	NS	20	19	NS	NS	NS	NS
INT-32	880	22	11	NS	12	16	NS	NS	NS	NS
INT-33	120	20	17	NS	10	9	NS	NS	NS	NS
INT-55	NS	122	61	NS	65	48	NS	78	44	29
INT-56	NS	297	146	NS	132	120	NS	131	104	73
INT-57	NS	66	51	NS	75	68	NS	55	61	54
INT-58	NS	34	33	NS	28	29	NS	26	21	23
INT-59	NS	79	49	NS	50	42	NS	61	43	47
INT-60	NS	110	85	NS	86	80	NS	90	75	73
INT-61	NS	39	40	NS	31	31	NS	32	27	39
INT-62	NS	35	43	NS	29	20	NS	28	25	64
INT-65	NS	66	61	NS	51	41	NS	50	NS	NS
INT-66	NS	120	94	NS	94	85	NS	51	NS	NS
INT-143	NS	NS	NS	NS	NS	NS	NS	NS	NS	11
INT-205	NS	61	39	NS	34	34	NS	50	42	39
INT-206	NS	107	86	NS	68	60	NS	51.5	46	20
INT-207	NS	45	60	NS	74	92	95	100.1	70	69
INT-208	NS	22	16	NS	11	18	NS	16	NS	10
INT-209	NS	37	19	NS	13	17	NS	5	4.3	1.5
INT-210	NS	27	28	NS	23	26	NS	28	27	20
INT-211	NS	43	46	NS	29	41	NS	NS	NS	NS
INT-212	NS	27	38	NS	41	38	NS	69	48	48
INT-213	NS	83	70	NS	91	143	NS	89	205	66
INT-214	NS	46	31	NS	22	26	NS	NS	NS	NS
INT-215	NS	82	82	NS	56	67	NS	43	44	41
INT-216	NS	34	28	NS	26	34	NS	NS	NS	NS
INT-217	NS	66	61	NS	60	62	NS	75	72	60
INT-228	NS	NS	NS	NS	NS	NS	NS	NS	NS	25
INT-229	NS	NS	NS	NS	NS	NS	NS	NS	NS	3.6
INT-230	NS	NS	NS	NS	NS	NS	NS	NS	NS	16
NS = Not Sampled										
Averages										
S1	784	387	439	NS	451	336	226	337		34
INT	957	125	89	NS	100	105	263	111		105

Table 4-9

Dissolved Oxygen at Production Wells

Well	9/1/94	11/23/94	1/1/95	3/26/95	4/5/95	5/28/95	6/30/95
INT-1	1.1	1.4	3.0	1.0	1.2	0.8	3.2
INT-2	1.5	0.8	0.8	0.4	1.4	0.4	1.1
INT-3	1.0	1.0	1.4	0.4	1.7	0.6	0.8
INT-4	0.9	1.1	1.2	0.5	1.0	0.8	1.8
INT-5	2.3	1.1	1.0	1.0	1.8	0.8	1.3
INT-6	0.7	1.3	1.4	1.0	1.4	0.6	1.0
INT-7	1.5	1.0	0.6	NM	0.9	0.6	1.1
INT-8	1.8	1.0	1.9	NM	1.4	0.6	1.0
INT-9	1.2	NM	1.4	NM	1.8	0.6	0.8
INT-10	1.9	1.4	1.7	0.8	2.4	0.6	3.1
INT-11	1.1	2.2	3.4	3.3	7.6	8.3	5.8
INT-12	2.2	13.8	13.8	15 +	15.0	7.2	5.0
INT-13	0.9	7.8	1.6	NM	2.7	2.8	10.6
INT-14	1.8	1.7	1.7	0.7	2.4	NM	NM
INT-15	1.4	1.6	2.0	NM	NM	NM	NM
INT-16	2.1	3.0	1.8	NM	NM	NM	NM
INT-17	2.9	2.2	2.6	NM	NM	NM	NM
INT-18	1.8	1.2	1.5	NM	1.2	NM	NM
INT-19	2.4	1.4	1.1	NM	1.3	1.9	3.0
INT-20	1.3	0.9	1.2	0.5	1.3	0.6	1.2
INT-21	1.7	2.6	3.0	0.6	0.9	0.8	1.3
INT-22	0.8	1.0	1.1	0.6	2.1	0.9	0.8
INT-23	1.1	2.4	2.3	NM	NM	3.0	3.2
INT-24	1.8	2.0	2.6	NM	1.8	3.8	2.7
INT-25	12.5	15+	10.2	NM	NM	NM	NM
INT-26	1.4	1.6	2.3	NM	1.7	2.8	1.5
INT-27	1.6	1.2	1.4	NM	1.2	1.7	0.9
INT-28	5.2	7.4	4.6	NM	1.0	1.9	1.0
INT-29	5.2	4.0	4.4	NM	NM	NM	NM
INT-30	9.5	9.4	1.8	NM	NM	NM	NM
INT-31	1.4	4.1	5.3	NM	NM	NM	NM
INT-32	15+	15+	15+	NM	NM	NM	NM
INT-33	2.5	1.9	2.5	NM	NM	NM	NM
INT-55	3.4	2.0	2.2	NM	0.9	1.0	2.6
INT-56	1.2	1.5	1.6	NM	0.8	0.4	1.5
INT-57	6.2	2.8	3.1	NM	2.9	0.8	5.7
INT-58	1.9	1.9	1.6	NM	1.3	0.4	1.4
INT-59	2.2	2.4	3.0	NM	1.2	1.0	2.2
INT-60	1.8	1.9	2.4	NM	1.8	1.4	1.9
INT-61	2.7	1.8	2.6	NM	2.0	1.5	1.8
INT-62	1.0	2.1	2.6	NM	2.3	1.6	1.1
INT-65	2.1	1.0	1.2	NM	1.6	NM	NM
INT-66	2.2	1.0	3.1	NM	6.8	NM	NM
INT-143	NM	NM	NM	NM	NM	NM	15+
INT-205	1.8	1.8	2.8	NM	2.3	1.1	3.5
INT-206	1.1	2.4	1.2	NM	1.2	1.0	3.1
INT-207	4.6	1.0	1.2	NM	0.7	0.8	0.8
INT-208	1.3	3.4	11.8	NM	8.4	NM	13.0
INT-209	2.8	15+	14.8	NM	14.8	15+	15+
INT-210	15+	15+	15+	NM	11.6	15+	15+
INT-211	1.9	2.0	2.0	NM	NM	NM	NM
INT-212	1.6	2.2	1.8	NM	2.2	0.7	2.4
INT-213	1.2	1.2	2.0	NM	2.8	1.2	0.9
INT-214	3.8	4.6	2.8	NM	NM	NM	NM
INT-215	5.2	3.6	3.0	NM	3.1	5.2	5.8
INT-216	3.4	4.2	2.7	NM	NM	NM	NM
INT-217	1.6	1.2	1.8	NM	1.1	1.0	1.7
INT-228	NM	NM	NM	NM	NM	NM	2.1
INT-229	NM	NM	NM	NM	NM	NM	1.0
INT-230	NM	NM	NM	NM	NM	NM	2.0

Table 4-9 (Continued)

Dissolved Oxygen at Production Wells

Well	9/1/94	11/23/94	1/1/95	3/26/95	4/5/95	5/28/95	6/30/95
S1-1	2.1	0.8	1.6	NM	NM	NM	NM
S1-2	1.7	1.6	1.1	NM	NM	NM	NM
S1-3	1.8	1.0	1.1	NM	NM	NM	NM
S1-4	2.0	0.8	0.9	NM	NM	NM	NM
S1-5	NM	NM	1.6	NM	NM	NM	NM
S1-6	1.6	NM	0.8	NM	NM	NM	NM
S1-7	1.3	NM	1.2	NM	NM	NM	NM
S1-8	1.1	0.7	0.8	NM	NM	NM	NM
S1-9	0.8	NM	1.5	NM	NM	NM	NM
S1-10	0.6	0.5	1.0	NM	0.9	NM	NM
S1-11	1.1	0.9	1.4	NM	0.8	NM	NM
S1-12	1.1	1.3	1.5	NM	1.4	NM	NM
S1-13	1.7	1.3	1.5	NM	0.7	NM	NM
S1-14	1.1	0.4	0.8	NM	0.8	NM	NM
S1-15	1.4	0.7	0.7	NM	0.9	NM	NM
S1-16	NM	1.2	2.9	NM	2.7	NM	NM
S1-17	1.2	0.8	1.4	NM	1.7	2.0	2.9
S1-18	2.4	1.4	2.2	NM	6.8	NM	NM
S1-19	3.4	3.9	6.6	NM	6.5	4.2	NM
S1-20	1.6	1.7	3.2	NM	13.0	10.2	NM
S1-21	15+	15+	15+	NM	13.6	15+	NM
S1-22	1.5	0.7	1.6	NM	1.8	1.4	0.8
S1-23	1.9	1.5	4.8	NM	15.0	NM	NM
S1-24	0.9	2.6	1.8	NM	2.4	NM	NM
S1-25	0.8	0.8	1.4	NM	2.2	0.7	0.8
S1-26	2.2	0.7	1.1	NM	1.4	0.7	1.0
S1-27	1.4	1.9	2.0	NM	1.9	0.6	1.2
S1-28	1.2	1.2	1.7	NM	5.0	0.4	1.3
S1-29	1.9	2.2	4.4	NM	2.5	0.8	3.2
S1-30	1.5	1.1	4.2	NM	1.8	NM	1.0
S1-31	1.8	1.6	1.2	NM	NM	NM	NM
S1-32	1.4	1.5	1.6	0.6	2.2	NM	1.6
S1-33	1.4	NM	NM	NM	NM	NM	NM
S1-34	1.2	NM	NM	NM	NM	NM	NM
S1-35	1.7	NM	1.5	NM	NM	NM	NM
S1-36	0.9	NM	NM	NM	NM	NM	NM
S1-37	1.3	NM	NM	NM	NM	NM	NM
S1-38	15+	NM	NM	NM	NM	NM	NM
S1-39	1.3	2.9	3.2	NM	NM	NM	NM
S1-40	2.2	1.0	2.0	NM	NM	NM	NM
S1-41	1.0	1.0	1.4	NM	NM	NM	NM
S1-42	14.0	NM	NM	NM	NM	NM	NM
S1-43	2.2	NM	NM	NM	NM	NM	NM
S1-44	1.8	6.0	1.8	NM	NM	NM	NM
S1-45	2.9	2.3	5.1	NM	NM	NM	NM
S1-46	13.5	15+	15+	NM	NM	NM	NM
S1-47	9.6	8.7	5.4	NM	NM	NM	NM
S1-48	5.3	4.2	5.0	NM	NM	NM	NM
S1-60	6.1	4.4	5.6	NM	NM	NM	NM
S1-61	1.1	0.8	1.2	0.8	2.0	2.6	2.6
S1-62	1.4	2.8	12.6	NM	15.0	15+	15+
S1-63	2.2	0.9	4.0	0.9	4.2	9.7	4.2
S1-64	2.4	1.8	4.1	0.9	15.0	2.7	2.7

Table 4-10

Dissolved Oxygen at Monitoring Wells

	3/4/94	6/1/94	9/2/94	12/15/94	2/7/95	3/25/95	4/9/95	5/4/95	6/11/95
INT-106	15+	15+	15+	15.0	4.7	NM	NM	NM	NM
INT-107	15+	15+	15+	15.0	15+	NM	NM	NM	NM
INT-108	1.1	0.2	0.2	2.1	1.7	0.2	0.3	1.5	0.2
INT-109	1.6	0.8	0.5	2.2	0.2	NM	NM	NM	NM
INT-110	1.6	0.9	0.8	0.8	0.4	NM	NM	NM	NM
INT-111	1.2	1.4	2.0	2.8	1.4	NM	NM	NM	NM
INT-112	15+	15+	15+	15.0	15+	15+	15+	15+	15+
INT-113	0.9	15+	15+	10.3	2.0	NM	NM	NM	NM
INT-114	1.6	0.8	0.4	1.5	0.2	NM	NM	NM	NM
INT-115	1.2	1.0	0.8	4.6	0.7	NM	NM	NM	NM
INT-116	2.4	3.8	NM	2.4	NM	NM	NM	NM	NM
INT-117	2.7	2.8	NM	3.1	NM	NM	NM	NM	NM
INT-118	4.8	2.2	NM	2.0	NM	NM	NM	NM	NM
INT-119	1.1	0.7	1.1	1.1	0.3	NM	NM	NM	NM
INT-132	2.0	1.8	0.4	3.6	0.7	NM	NM	NM	NM
INT-133	0.8	1.2	0.5	1.9	0.6	NM	NM	NM	NM
INT-134	0.6	0.6	0.6	1.8	0.6	NM	NM	NM	NM
INT-135	0.6	0.8	0.6	6.8	0.7	0.2	0.4	0.2	1.9
INT-137	1.0	1.8	0.8	3.1	2.4	NM	NM	NM	NM
INT-138	0.8	0.8	0.4	2.3	0.6	NM	NM	NM	NM
INT-139	0.6	0.8	0.9	1.1	0.5	NM	NM	NM	NM
P-5	1.0	0.4	0.1	0.6	0.2	NM	NM	NM	NM
P-6	1.0	0.6	0.3	NM	NM	NM	NM	NM	NM
REI-10-2	1.2	0.8	0.4	1.1	0.2	NM	NM	NM	NM
REI-10-3	0.6	0.8	0.3	0.8	0.3	NM	NM	NM	NM
REI-12-2	0.8	2.0	NM	2.4	NM	NM	NM	NM	NM
S1-101	1.1	0.8	0.2	0.8	0.2	NM	NM	NM	NM
S1-102	1.6	0.6	0.4	0.5	0.2	0.3	0.2	0.3	0.3
S1-103	0.8	6.6	2.3	1.2	0.2	NM	NM	NM	NM
S1-104	1.6	0.8	1.8	3.9	15+	NM	NM	NM	NM
S1-105	15+	15+	0.2	1.4	6.8	NM	NM	NM	NM
S1-106	0.8	0.8	0.4	0.6	0.1	0.2	0.5	0.3	0.3
S1-107	5.4	15+	15+	15.0	15+	NM	NM	NM	NM
S1-108	1.6	0.0	0.6	15.0	15+	NM	NM	NM	NM
S1-109	8.4	15+	15+	5.2	15+	NM	NM	NM	NM
S1-110	1.3	1.4	0.6	0.6	0.2	NM	NM	NM	NM
S1-111	2.0	0.8	15+	15.0	15+	NM	NM	NM	NM
S1-112	0.6	1.4	0.7	2.4	0.2	NM	NM	NM	NM
S1-113	1.8	0.8	0.4	2.7	0.5	0.3	0.3	0.2	0.3

Table 4-10 (Continued)

Dissolved Oxygen at Monitoring Wells

	3/4/94	6/1/94	9/2/94	12/15/94	2/7/95	3/25/95	4/9/95	5/4/95	6/11/95
ERT-1	1.0	0.8	0.2	1.2	NM	NM	NM	NM	NM
ERT-3	1.0	1.0	0.2	1.8	NM	NM	NM	NM	NM
ERT-7	1.0	0.8	0.2	NM	NM	NM	NM	NM	NM
ERT-8	1.0	0.6	0.2	2.2	NM	NM	NM	NM	NM
ERT-9	1.0	1.3	0.4	NM	NM	NM	NM	NM	NM
ERT-22	NM	NM	NM	NM	NM	NM	0.6	8.4	5.6
ERT-24	0.8	NM	NM	2.0	NM	NM	NM	NM	NM
ERT-25	1.8	1.0	NM	1.6	NM	NM	NM	NM	NM
ERT-26	0.8	NM	NM	2.3	NM	NM	NM	NM	NM
ERT-27	1.9	NM	NM	NM	NM	NM	NM	NM	NM
ERT-28	6.4	NM	NM	4.8	NM	NM	NM	NM	NM
ERT-29	1.2	NM	NM	NM	NM	NM	NM	NM	NM
ERT-30	7.5	NM	NM	NM	NM	NM	NM	NM	NM
ERT-33	1.1	0.4	NM	1.1	NM	NM	NM	NM	NM
ERT-34	0.9	0.6	NM	NM	NM	NM	NM	NM	NM
FLTG-1	0.8	0.3	NM	3.6	NM	NM	NM	NM	NM
FLTG-2	1.0	1.2	NM	NM	NM	NM	NM	NM	NM
FLTG-3	1.3	0.8	NM	NM	NM	NM	NM	NM	NM
FLTG-4	1.0	0.6	NM	NM	NM	NM	NM	NM	NM
FLTG-5	0.8	0.4	NM	3.0	NM	NM	NM	NM	NM
FLTG-6	1.2	1.6	NM	NM	NM	NM	NM	NM	NM
FLTG-7	1.6	0.6	0.8	2.0	0.4	0.2	0.3	0.2	0.3
FLTG-8	1.7	0.8	0.4	2.5	0.4	NM	NM	NM	NM
FLTG-9	1.2	11.4	15+	NM	15+	NM	NM	NM	NM
FLTG-10	1.1	2.2	2.6	3.2	1.2	NM	NM	NM	NM
FLTG-11	0.6	0.6	0.5	NM	NM	NM	NM	NM	NM
FLTG-12	0.8	1.8	0.6	NM	NM	NM	NM	NM	NM
FLTG-13	0.3	0.8	0.4	2.6	1.3	NM	NM	NM	NM
FLTG-14	0.6	0.8	0.4	2.4	0.2	NM	NM	NM	NM
FLTG-15	0.8	1.2	NM	2.4	NM	NM	NM	NM	NM
INT-59-P1	1.6	0.5	0.6	NM	1.2	NM	NM	NM	NM
INT-59-P4	1.4	0.9	0.6	NM	0.6	NM	NM	NM	NM
INT-60-P1	1.7	1.0	0.4	NM	0.2	NM	NM	NM	NM
INT-60-P4	1.4	0.8	0.4	NM	0.5	NM	NM	NM	NM
INT-101	1.0	0.4	0.2	2.6	0.3	0.2	0.3	0.3	1.0
INT-102	0.6	0.6	NM	15+	15+	14.9	15+	15+	6.9
INT-103	2.2	0.7	0.1	1.3	0.2	NM	NM	NM	NM
INT-104	2.3	4.8	0.3	4.6	3.2	NM	NM	NM	NM
INT-105	1.2	0.7	0.4	4.6	0.4	NM	NM	NM	NM

Table 4-10 (Continued)

Dissolved Oxygen at Monitoring Wells

	3/4/94	6/1/94	9/2/94	12/15/94	2/7/95	3/25/95	4/9/95	5/4/95	6/11/95
S1-114	0.8	1.2	0.4	1.5	0.4	NM	NM	NM	NM
S1-115	1.8	1.6	NM	3.2	NM	NM	NM	NM	NM
S1-116	0.8	0.7	NM	2.1	NM	NM	NM	NM	NM
S1-117	2.0	2.3	NM	2.9	NM	NM	NM	NM	NM
S1-118	1.6	0.6	NM	3.4	NM	NM	NM	NM	NM
S1-135	1.2	1.3	0.2	0.8	NM	NM	NM	NM	NM
S1-137	1.0	1.0	0.8	1.0	NM	NM	NM	NM	NM
S1-50-P1	15+	1.7	15+	NM	NM	NM	NM	NM	NM
S1-50-P3	15+	15+	11.6	NM	1.6	NM	NM	NM	NM
S1-51-P1	1.0	1.3	15+	NM	NM	NM	NM	NM	NM
S1-51-P3	1.5	0.8	0.6	NM	0.3	NM	NM	NM	NM
S2-101	NM	NM	NM	3.8	NM	NM	NM	NM	NM
SG-1	NM	NM	NM	NM	NM	NM	NM	NM	NM
SG-2	NM	NM	NM	NM	NM	NM	NM	NM	NM
SG-3	NM	NM	NM	NM	NM	NM	NM	NM	NM
SG-4	NM	NM	NM	NM	NM	NM	NM	NM	NM
SG-5	NM	NM	NM	NM	NM	NM	NM	NM	NM
W-3	1.1	0.2	0.5	1.8	0.2	NM	NM	NM	NM
W-4	1.4	0.4	0.5	NM	NM	NM	NM	NM	NM
W-5	1.6	0.2	0.4	NM	NM	NM	NM	NM	NM
W-7	0.8	1.0	0.3	2.6	NM	NM	NM	NM	NM

5.0 GROUNDWATER TREATMENT PLANT

5.1 Summary of Activities

Flows to the GWT plant decreased an additional 1.5 million gallons in June. The S1 wells that have reached criteria and were turned off June 5, 1995, account for this decrease.

A slight increase in Total Organic Carbon in the influent has also occurred with the shut off of these wells.

Flows through the plant are at 45% of the volumes recorded last year. TOC has reduced 65%-75% in the same time frame as clean-up is being achieved.

Adjustment in the plant continued in June to accommodate these changes.

There have been no discharge excursions nor major mechanical failures in the groundwater treatment plant this reporting period.

Total flows for June, 1995:

Water discharged to the San Jacinto River - 4,130,100 gallons

Water discharged to the Lagoon - 0

Sludge discharged to the Lagoon - 46,375 gallons

Water processed through the GWT - 4,077,500 gallons

Water discharged to the South Pond - 0

Water blended passed Carbon Filter - 3,733,400 gallons

Water processed from Cell D to GWT plant: metered - 0

Cell D injection at S1-1 through S1-9: metered - 177,800 gallons

5.2 Inoculum/Nutrient Addition

The following have been introduced into the bioreactors/clarifier:

Nutrients:

310 gallons Diammonium Phosphate

Microbes:

16 oz. French Limited Isolated Microbes

Coagulant:

~ 6.0 gallons Percol 778 Cationic Polymer

5.3 Maintenance

Table 5-1 lists the preventive maintenance items performed in June.

5.4 Operating Data

Table 5-2 summarizes the laboratory analysis of the treated water discharged to the San Jacinto River.

TABLE 5-1

Preventive Maintenance

Day	Action
June 2	Completed monthly, quarterly inspection of all electrical tools, extension cords, office equipment, and ladders.
June 5	Lubed blowers 1, 2, & 3.
June 6	Adjusted belt tension on blower #2.
June 8	Rotated SALA pumps.
June 12	Lubed and exercised valves GWT.
June 15	Lubed all gate rollers.
June 19	Lubed pumps in GWT and Chemical Storage.
June 22	Lubed all "Red" valves.
June 30	Quarterly maintenance and factory calibration of TOC analyzer.

TABLE 5-2
Treated Water Results Summary

Collected	Set No.	pH (6-9)		TSS 5 PPM		TOC 55 PPM		O&G 15 PPM		Benzene 150 PPB		Chlor HC's 500 PPB		Total PCBs 0.65 PPB		Napthalene 300 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
2-Mar-95	M03A0313	7.47		.5		8.5		2.5		2.5		145.		.16		5.	
6-Mar-95	M03A0314	7.49		1.		8.1		2.5		2.5		128.		.16		5.	
9-Mar-95	M03A0315	7.38		1.		8.		2.5		2.5		193.		.16		5.	
13-Mar-95	M03A0316	7.64		5.		7.2		2.5		2.5		111.		.16		5.	
16-Mar-95	M03A0317	7.55		.5		6.		2.5		2.5		150.		.16		5.	
20-Mar-95	M03A0318	7.41		.5		6.6		2.5		2.5		97.		.16		5.	
23-Mar-95	M03A0319	7.45		1.		6.		2.5		2.5		185.		.16		5.	
27-Mar-95	M03A0320	7.83		3.		12.2		2.5		6.		325.		.16		5.	
30-Mar-95	M03A0321	7.47	7.5	7.	2.2	11.9	8.3	2.5	2.5	6.	3.3	342.	186	.16	.16	5.	5.
3-Apr-95	M03A0322	7.42	7.5	1.	2.2	11.7	8.6	2.5	2.5	6.	3.7	269.	200	.16	.16	5.	5.
6-Apr-95	M03A0323	7.45	7.5	2.	2.3	12.2	9.1	2.5	2.5	6.	4.1	239.	212	.16	.16	5.	5.
10-Apr-95	M03A0324	7.38	7.5	2.	2.4	11.1	9.4	2.5	2.5	6.	4.4	230.	216	.16	.16	5.	5.
13-Apr-95	M03A0325	7.62	7.5	3.	2.2	12.9	10.1	2.5	2.5	6.	4.8	364.	245	.16	.16	5.	5.
17-Apr-95	M03A0326	7.59	7.5	11.	3.4	12.9	10.8	2.5	2.5	6.	5.2	247.	255	.16	.16	5.	5.
20-Apr-95	M03A0327	7.75	7.6	1.	3.4	12.1	11.4	2.5	2.5	6.	5.6	226.	270	.16	.16	5.	5.
24-Apr-95	M03A0328	7.67	7.6	13.	4.8	13.	12.2	2.5	2.5	6.	6.	269.	279.	.16	.16	5.	5.
27-Apr-95	M03A0329	7.51	7.5	1.	4.6	12.2	12.2	2.5	2.5	2.5	5.6	236.	269	.16	.16	5.	5.
1-May-95	M03A0330	7.63	7.6	1.	3.9	12.1	12.2	2.5	2.5	2.5	5.2	177.	251	.16	.16	5.	5.
4-May-95	M03A0331	7.91	7.6	4.	4.2	12.5	12.3	2.5	2.5	2.5	4.8	222.	246	.16	.16	5.	5.
8-May-95	M03A0332	7.95	7.7	4.	4.4	11.3	12.2	2.5	2.5	2.5	4.4	228.	244	.16	.16	5.	5.
11-May-95	M03A0334	7.97	7.7	4.	4.7	10.9	12.21	2.5	2.5	2.5	4.1	235.	245	.16	.16	5.	5.
15-May-95	M03A0333	7.87	7.8	8.	5.2	13.7	12.3	2.5	2.5	2.5	3.7	209.	228	.16	.16	5.	5.
18-May-95	M03A0335	7.73	7.8	6.	4.7	11.	12.1	2.5	2.5	6.	3.7	374.	242	.16	.16	5.	5.
22-May-95	M03A0336	7.88	7.8	1.	4.7	31.	14.2	2.5	2.5	6.	3.7	274.	247	.16	.16	5.	5.
29-May-95	M03A0337	7.76	7.8	1.	3.3	45.	17.7	2.5	2.5	6.	3.7	227.	242	.16	.16	5.	5.
5-Jun-95	M03A0338	7.53	7.8	.5	3.3	12.1	17.7	2.5	2.5	2.5	3.7	189.	237	.16	.16	5.	5.
12-Jun-95	M03A0339	7.78	7.8	1.	3.3	45.8	21.5	2.5	2.5	2.5	3.7	188.	238	.16	.16	5.	5.
19-Jun-95	M03A0440	7.68	7.8	5.	3.4	7.	20.9	2.5	2.5	2.5	3.7	144.	230	.16	.16	5.	5.
26-Jun-95	M03A0441	7.71	7.77	1.	3.1	9.1	20.6	2.5	2.5	2.5	3.67	128.	219	.16	.16	5.	5.
2-Jul-95	M03A0442	7.47	7.71														

Chlorinated hydrocarbons value is the sum of detected concentrations of 21 volatile chlorinated hydrocarbons on target compound list.

TABLE 5-2 (Continued)
Treated Water Results Summary

Collected	Set No.	As		Be		Cd		Cr		Cu		Pb		Mn		Hg		Ni		Se		Ag		Zn	
		150 PPB		1000 PPB		50 PPB		500 PPB		15 PPB		66 PPB		300 PPB		1 PPB		148 PPB		20 PPB		5 PPB		162 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
2-Mar-95	M03A0313	23.		133.		.1		2.		1.		.5		15.		.1		8.		1.3		.5		6.	
6-Mar-95	M03A0314	17.		130.		1.		1.		3.		2.2		3.		.1		2.5		.5		.8		8.	
9-Mar-95	M03A0315	24.		111.		.1		.2		.8		.5		4.		.1		4.		1.3		.2		6.	
13-Mar-95	M03A0316	17.		121.		.1		.2		1.		.5		41.		.1		3.		1.3		.2		5.	
16-Mar-95	M03A0317	23.		114.		.1		.3		3.		.5		2.		.1		3.		1.3		.2		11.	
20-Mar-95	M03A0318	18.		112.		.1		.2		3.		.5		2.		.1		2.		1.3		.2		3.	
23-Mar-95	M03A0319	19.		119.		.1		.2		2.		.5		2.		.1		3.		1.3		.2		4.	
27-Mar-95	M03A0320	14.		130.		.1		3.		2.		.5		22.		.1		5.		1.3		.2		40.	
30-Mar-95	M03A0321	19.	19.3	132.	122	.1	.2	2.	1.	2.	2.	.5	.7	25.	12.9	.1	.1	6.	4.1	1.3	1.2	.2	.3	8.	10.1
3-Apr-95	M03A0322	17.	18.7	127.	122	.1	.2	.2	.8	2.	2.1	.5	.7	9.	12.2	.1	.1	1.	3.3	1.3	1.2	.2	.2	15.	11.1
6-Apr-95	M03A0323	23.	19.3	102.	119	.1	.1	.2	.7	1.	1.9	.5	.5	4.	12.3	.1	.1	1.	3.1	1.3	1.3	.2	.2	4.	10.7
10-Apr-95	M03A0324	12.	18.	157.	124	.1	.1	2.	.9	2.	2.	2.	.7	32.	15.4	.1	.1	4.	3.1	1.3	1.3	.2	.2	8.	10.9
13-Apr-95	M03A0325	44.	21.	107.	122	.1	.1	1.	1.	2.	2.1	.5	.7	11.	12.1	.1	.1	6.	3.4	1.3	1.3	.2	.2	3.	10.7
17-Apr-95	M03A0326	26.	21.3	171.	129	.1	.1	14.	2.5	2.	2.	1.	.7	108.	23.9	.1	.1	14.	4.7	1.3	1.3	.2	.2	17.	11.3
20-Apr-95	M03A0327	24.	22.	129.	130	.7	.2	7.	3.3	9.	2.7	2.	.9	43.	28.4	.1	.1	10.	5.6	1.3	1.3	.2	.2	34.	14.8
24-Apr-95	M03A0328	21.	22	115.	130.	.1	.2	7.	4.	1.	2.6	.5	.9	38.	32.4	.1	.1	6.	5.9	1.3	1.3	.2	.2	4.	14.8
27-Apr-95	M03A0329	24.	23.3	110.	128	.1	.2	2.	3.9	2.	2.6	.5	.9	12.	31.3	.1	.1	7.	6.1	1.3	1.3	.2	.2	9.	11.3
1-May-95	M03A0330	16.8	23.1	106.	125	1.1	.3	.7	3.8	.7	2.4	.5	.9	6.8	29.3	.1	.1	8.5	6.4	.8	1.2	.5	.2	.2	10.5
4-May-95	M03A0331	21.	23.5	149.	127	1.1	.4	5.9	4.4	1.	2.3	.5	.9	70.4	36.1	.1	.1	7.6	7.1	.8	1.2	.5	.2	16.2	10.6
8-May-95	M03A0332	16.	22.8	126.	130.	.1	.4	1.	4.5	1.6	2.4	.5	.9	6.	36.4	.1	.1	5.	7.6	1.3	1.2	.2	.2	4.	10.6
11-May-95	M03A0334	17.	23.3	158.	130	.1	.4	3.	4.6	.9	2.2	.5	.7	22.	35.2	.1	.1	6.	7.8	1.3	1.2	.2	.2	5.	10.3
15-May-95	M03A0333	17.	20.3	141.	134	.1	.4	2.	4.7	1.	2.1	.5	.7	21.	36.4	.1	.1	5.	7.7	1.3	1.2	.2	.2	4.	10.4
18-May-95	M03A0335	18.	19.4	122.	128	.1	.4	.2	3.2	.3	1.9	.5	.7	4.	24.8	.1	.1	3.	6.5	1.3	1.2	.2	.2	1.5	8.7
22-May-95	M03A0336	14.	18.3	130.	129	.1	.3	1.	2.5	.5	1.	.5	.5	9.	21.	.1	.1	5.	5.9	1.3	1.2	.2	.2	7.	5.7
29-May-95	M03A0337	16.	17.8	176.	135	.1	.3	2.	2.	.3	.9	.5	.5	27.	19.8	.1	.1	1.	5.3	2.8	1.3	.2	.2	4.	5.7
5-Jun-95	M03A0338	12.	16.4	191.	144	.1	.3	2.	2.	1.	.8	.5	.5	18.	20.5	.1	.1	4.	5.	1.3	1.3	.2	.2	5.	5.2
12-Jun-95	M03A0339	13.	16.	204.	155	.1	.2	1.	2.	1.	.8	.5	.5	2.5	20.	.1	.1	4.5	4.6	1.3	1.4	.2	.2	3.	5.5
19-Jun-95	M03A0340	14.	15.2	213.	162	.1	.1	1.	1.5	.8	.8	.5	.5	6.	12.8	.1	.1	5.	4.3	1.3	1.4	.2	.2	1.5	3.9
26-Jun-95	M03A0341	15.	15.1	155.	168	.1	.1	.7	1.4	.7	.7	4.	.9	2.	12.4	.1	.1	4.	4.2	1.3	1.4	.2	.2	6.	4.1

Metals values in PPB.

6.0 AMBIENT AIR MANAGEMENT

Ambient air quality management continued on an "as-needed" basis to protect the environment, human health, and site workers.

6.1 Summary of Activities

Collected and analyzed three time-integrated personnel exposure samples; the measured levels of volatile organic compounds were well below the action levels.

Sampled the ambient air in all work areas several times per shift and on a random "spot-check" basis; there were no levels of volatile organic compounds which required response action. Sampled ambient air in special work areas where burning and/or welding was planned. Sampled ambient air continuously in areas where exposure could occur and where confined space work occurred.

6.2 Problems and Response Action

Problem	Response Action
Calibrate portable vapor meters.	Train operators to calibrate; refurbish all meters.
Sampling "hot" wells.	Require respirator use when sampling "hot" wells.
Ambient air quality in all work areas.	Check all work areas with portable meter several times per day.
H_2S levels in some well vaults.	Vent vault and purge with air before working in the vaults.

6.3 Problems Resolved

None.

6.4 On-going Events/Activities

Measure ambient air quality in all work areas several times per day.

Conduct periodic time-integrated sampling in all major work areas.

Require respiratory protection when sampling "hot" wells.

Conduct necessary air sampling and analyses to issue "burn" permits.

Closely monitor ambient air quality in the vicinity of new projects/activities.

Conduct respirator fit tests on all employees.

7.0 QUALITY ASSURANCE/QUALITY CONTROL

7.1 Summary of Activities

7.1.1 Sampling

One set of personal air monitoring samples were collected in June. The following is a summary of current routine and special air matrix code sample specifics:

MATRIX CODE	SAMPLE SPECIFICS
M01D	TF at three locations

TF = Tenax® front tube

Table 7-1 is a summary of the air, soil and water samples collected during the month of June. Table 7-2 is a summary of scheduled sampling events for the month of June.

7.1.2 Data Validation Activities Summary

7.1.2.1 Treated Water Samples

Data validation was completed for sample sets M03A0332, M03A0333, M03A0334, M03A0335, M03A0336, M03A0337, M03A0338 and M03A0339. These samples were collected between May 8, 1995 and June 12, 1995. QC failures are summarized in Table 7-3. Completeness values are summarized in Tables 7-4 through 7-8.

7.1.2.2 Groundwater Samples

Level I data validation was completed for the monthly groundwater monitoring sample sets collected in late May and early June. There were no significant analytical QC failures on these sample data.

7.1.2.3 Other Samples

All other special sample sets were validated manually this period.

7.2 Data Validation QC Summary and Discussion

7.2.1 Level I and Level II QC Philosophy

The Quality Assurance Project Plan (QAPP) defines data validity in terms of procedural requirements which must be followed for data comparability, and numerical data quality objectives which must be met to assure precision and accuracy of the results. Precision, accuracy and completeness are the numerical Data Quality Objectives (DQOs) established for the French Project by the QAPP. The intent of the data validation process is to verify that the documentation and quality control data provided by the laboratory properly substantiate the required data quality.

For purposes of data validation procedures, the QAPP defines two QC levels: Level I and Level II. Level I data validation is specified for process control and progress monitoring sample data validation and Level II data validation is specified for remediation verification sample results and treated water discharge sample results.

7.2.2 QA Issues

7.2.2.1 Matrix Interference on Groundwater Samples

Starting with the June monthly groundwater sampling event, extra volume will be collected from every 10th well sampled for a set of MS/MSD samples. The samples and analytical data will be treated as QC level II. This deviates from the normal routine of treating groundwater samples as level I. This procedure will serve to ascertain the potential for matrix effect QC failures on groundwater samples. This extra data may also be used to provide a base for the matrix spike/duplicate recovery limits to be used for remediation verification samples. This data will be reported in the monthly report beginning with the July monthly report.

TABLE 7-1

Samples Collected - June, 1995

Sample No.	Description	Location	Date Samp'd	Lab Rec'd	Data Rec'd	Lab
M01D005701	Personal air monitoring	WTP Operator	6/07	6/08	Y	A
M01D005702	Personal air monitoring	Well Maint.	6/07	6/08	Y	A
M01D005703	Personal air monitoring	T-101 Area	6/07	6/08	Y	A
M03A033801	Treated water discharge	CF Out	6/05	6/06	Y	A
M03A033901	Treated water discharge	CF Out	6/12	6/13	Y	A
M03A034001	Treated water discharge	CF Out	6/19	6/20	N	A
M03A034101	Treated water discharge	CF Out	6/26	6/27	N	A
M04B004001	Monthly groundwater monitoring	S1-120	6/01	6/02	Y	A
M04B004002	Monthly groundwater monitoring	INT-110	6/01	6/02	Y	A
M04B004003	Monthly groundwater monitoring	INT-123	6/01	6/02	Y	A
M04B004004	Monthly groundwater monitoring	REI-10-2	6/01	6/02	Y	A
M04B004005	Monthly groundwater monitoring	S1-050-P-2	6/01	6/02	Y	A
M04B004006	Monthly groundwater monitoring	S1-102	6/01	6/02	Y	A
M04B004007	Monthly groundwater monitoring	S1-109	6/01	6/02	Y	A
M04B004008	Monthly groundwater monitoring	S1-128	6/01	6/02	Y	A
M04B004009	Monthly groundwater monitoring	S1-127	6/01	6/02	Y	A
M04B004010	Monthly groundwater monitoring	INT-119	6/01	6/02	Y	A

Labs: A = American Analytical and Technical Services
N = North Water District Lab
K = Chester LabNet-Houston

TABLE 7-1

Samples Collected - June, 1995

Sample No.	Description	Location	Date Samp'd	Lab Rec'd	Data Rec'd	Lab
M04B004011	Monthly groundwater monitoring	S1-107	6/01	6/02	Y	A
M04B004012	Monthly groundwater monitoring	S1-114	6/01	6/02	Y	A
M04B004101	Monthly groundwater monitoring	S1-132	6/02	6/03	Y	A
M04B004102	Monthly groundwater monitoring	S1-134	6/02	6/03	Y	A
M04B004103	Monthly groundwater monitoring	INT-141	6/02	6/03	Y	A
M04B004104	Monthly groundwater monitoring	INT-144	6/02	6/03	Y	A
M04B004201	Monthly groundwater monitoring	S1-104	6/06	6/07	Y	A
M04B004202	Monthly groundwater monitoring	S1-121	6/06	6/07	Y	A
M04B004203	Monthly groundwater monitoring	S1-122	6/06	6/07	Y	A
M04B004204	Monthly groundwater monitoring	S1-061	6/06	6/07	Y	A
M04B004205	Monthly groundwater monitoring	S1-062	6/06	6/07	Y	A
M04B004206	Monthly groundwater monitoring	INT-120	6/06	6/07	Y	A
M04B004301	Monthly groundwater monitoring	INT-131	6/07	6/08	Y	A
M04B004302	Monthly groundwater monitoring	S1-126	6/07	6/08	Y	A
M04B004303	Monthly groundwater monitoring	W-7	6/07	6/08	Y	A
M04B004304	Monthly groundwater monitoring	ERT-10	6/07	6/08	Y	A
M06C002801	Monthly process water monitoring	T-101 Eff	6/07	6/08	Y	A

Labs: A = American Analytical and Technical Services
N = North Water District Lab
K = Chester LabNet-Houston

TABLE 7-1

Samples Collected - June, 1995

Sample No.	Description	Location	Date Samp'd	Lab Rec'd	Data Rec'd	Lab
M06C002802	Monthly process water monitoring	T-101 Inf	6/07	6/08	Y	A
M06C002803	Monthly process water monitoring	R1	6/07	6/08	Y	A
M06C002804	Monthly process water monitoring	R2	6/07	6/08	Y	A
M06C002805	Monthly process water monitoring	Cell D Liqr	6/07	6/08	Y	A
M08A002101	Potable water monitoring	Potable H2O	6/12	6/13	N	A
M08B000901	Potable water monitoring	Potable H2O	6/12	6/13	N	N
M08C001201	Riverdale water monitoring	RD-3	6/08	6/09	Y	N
M08D001501	Riverdale water monitoring	RD-3	6/08	6/09	Y	A
S14C000801	New West INT wells	231A	6/19	6/20	Y	A
S14C000802	New West INT wells	231-A	6/19	6/20	Y	A
S14C000901	New West INT wells	INT-235	6/22	6/23	Y	A
S14C000902	New West INT wells	INT-236	6/22	6/23	Y	A
S14C000903	New West INT wells	INT-238	6/22	6/23	Y	A
S14C001001	New West INT wells	INT-232	6/27	6/28	N	A

Labs: A = American Analytical and Technical Services
N = North Water District Lab
K = Chester LabNet-Houston

TABLE 7-2

Scheduled Sampling Events
June, 1995

Date Sampled	Set Number	Description	Schedule
6/01/95	M04B0040	Groundwater monitoring	Monthly
6/02/95	M04B0041	Groundwater monitoring	Monthly
6/06/95	M04B0042	Groundwater monitoring	Monthly
6/07/95	M04B0043	Groundwater monitoring	Monthly
6/19/95	S14C0008	New West INT wells	Special
6/22/95	S14C0009	New West INT wells	Special
6/27/95	S14C0010	New West INT wells	Special
6/07/95	M01D0057	Personal air monitoring	Monthly
6/12/95	M08A0021	Potable water monitoring	Quarterly
6/12/95	M08B0009	Potable water monitoring	Quarterly
6/07/95	M06C0028	Process monitoring	Monthly
6/08/95	M08C0012	Riverdale well monitoring	Monthly
6/08/95	M08D0015	Riverdale well monitoring	Monthly
6/05/95	M03A0338	Treated water discharge	Weekly
6/12/95	M03A0339	Treated water discharge	Weekly
6/19/95	M03A0340	Treated water discharge	Weekly
6/26/95	M03A0341	Treated water discharge	Weekly

TABLE 7-3

Treated Water QC Failure Summary

Sample Date	Test	QC Failure	Explanation	Corrective Action
05/08/95	Mn Ba	ICP Serial Dilution	ICP serial dilution indicated interference.	None required - LCS and Spike were within QC limits.
05/08/95	SV	Spike Accuracy	Spike accuracy values were outside control limits for 4-Nitrophenol on MS/MSD pair.	None required - FLTG QAP only specifies accuracy control limits for Naphthalene.
05/08/95	SV	Su Recov.	Surrogate Tribromophenol was outside QC limits on sample -01MS.	None required - 1 base/neutral and 1 acid surrogate are allowed to be outside QC limits.
05/11/95	SV	Su Recov.	Surrogate Tribromophenol was outside QC limits on sample -01.	None required - 1 base/neutral and 1 acid surrogate are allowed to be outside QC limits.
05/11/95	Zn Pb	Duplicate Precision	Duplicate precision was outside control limits.	None required - LCS, and Spike were within QC limits.
05/15/95	Mn Ba	ICP Serial Dilution	ICP serial dilution indicated interference.	None required - LCS and Spike were within QC limits.
05/15/95	SV	Su Recov.	Surrogates Tribromophenol and 2-Fluorbiphenyl were outside QC limits on sample -01 MS.	None required - 1 base/neutral and 1 acid surrogate are allowed to be outside QC limits.
05/15/95	SV	Spike Accuracy	Spike accuracy values were outside control limits for 4-Nitrophenol on MS/MSD pair.	None required - FLTG QAP only specifies accuracy control limits for Naphthalene.
05/18/95	Ba	ICP Serial Dilution	ICP serial dilution indicated interference.	None required - LCS, Dup and Spike were within QC limits.
05/22/95	Ba	ICP Serial Dilution	ICP serial dilution indicated interference.	None required - LCS, Dup and Spike were within QC limits.
05/22/95	SV	Spike Accuracy	Spike accuracy values were outside control limits for 4-Nitrophenol on MS/MSD pair.	None required - FLTG QAP only specifies accuracy control limits for Naphthalene.
05/22/95	VOA	Spike Precision	Spike precision RPD on Toluene was outside QC limits.	None required - FLTG QAP only specifies precision control limits for vinyl chloride and benzene.
05/29/95	Ba	ICP Serial Dilution	ICP serial dilution indicated interference.	None required - LCS, Dup and Spike were within QC limits.
05/29/95	Mn	Spike Accuracy	Spike accuracy % recovery was outside control limits.	None required - LCS and Dup were within QC limits.
05/29/95	SV	Spike Accuracy	Spike accuracy value was outside control limits for 4-Nitrophenol on sample M03A033701 MS.	None required - FLTG QAP only specifies accuracy control limits for Naphthalene.
06/05/95	PCB	SU Recovery	Surrogate TCX was outside control limits (low) on column 1 for sample M03A033801 MSD	None required - column 2 recovery was within control limits.
06/05/95	SV	Spike Accuracy	Spike accuracy values were outside control limits for 4-Nitrophenol on MS/MSD pair.	None required - FLTG QAP only specifies accuracy control limits for Naphthalene.

7.2.3 Completeness Summaries

Tables 7-4 through 7-8 summarize completeness values for VOA, SVA, PCBs, Metals and miscellaneous parameters on treated water samples.

VOA (Table 7-4)

A total of 7 VOA sample sets have been validated with all categories meeting Project Completeness Goals.

SVA (Table 7-5)

A total of 7 SVA sample sets have been validated for this time period. All categories meet or exceed Project Completeness Goals with the exception of sample matrix effect. This is due to matrix effect failures in the early stages of the project and the MS/MSD accuracy failures that occurred during September and October 1994.

PCBs (Table 7-6)

A total of 7 PCB sample sets have been validated for this time period with all samples, meeting data quality objectives. All categories meet or exceed Project Completeness Goals.

Metals (Table 7-7)

A total of 7 sample sets have been validated for this time period. Project Completeness Goals are met or exceeded in all categories.

Miscellaneous Parameters (Table 7-8)

A total of 7 sample sets have been validated for this time period. Project completeness goals are met or exceeded in all categories.

TABLE 7-4

Completeness Summary
M03A Treated Water
Volatile Organics Analyses

SAMPLE DATE SET NUMBER	M03A0332 thru M03A0339	Project to Date	PROJECT GOAL
Analysis Holding Time	100	100	100
12 Hour Window	100	100	100
SU Check	100	94	90
SU1 (d4-1,2-DCE)	100	97	90
SU2 (d8-Toluene)	100	98	90
SU3 (4-BFB)	100	99	90
IS Check	100	100	90
IS1 (BrClMethane)	100	100	90
IS2 (1,4-DiFlBenzene)	100	100	90
IS3(d5-ClBenzene)	100	100	90
Sample RT/RRT Check	100	*	
Vinyl Chloride			
Accuracy	100	99	90
Precision	100	99	90
Benzene			
Accuracy	100	99	90
Precision	100	100	90
No Group Matrix Effect	100	*	90
No Sample Matrix Effect	100	*	90
Tune Check	100	*	
Overall ICAL Check	100	*	
Overall CCAL Check	100	*	
Overall Lab Blank Check	100	*	

* - Level II QC checks were performed on 10% of samples prior to 6/14/93.
PTD completeness values do not apply to these checks.

TABLE 7-5

Completeness Summary
M03A Treated Water
Semivolatile Organic Analyses

SAMPLE DATE SET NUMBER	M03A0332 thru M03A0339	Project to Date	PROJECT GOAL
Extract Holding Time	100	100	100
Analysis Holding Time	100	100	100
12 Hour Window	100	100	100
SU Check	**100**	**95**	**90**
SU1 (2-FlPhenol)	100	95	90
SU2 (d5-Phenol)	100	94	90
SU3 (d5-Nitrobenz)	100	96	90
SU4(2-FlBiphenyl)	100	98	90
SU5(2,4,6-TBPh)	100	94	90
SU6(d14-Terphen)	75	94	90
IS Check	**100**	**98**	**90**
IS1 (d4-1,4-DiClBenz)	100	100	90
IS2 (d8-Naph)	100	100	90
IS3 (d10-Acenaph)	100	100	90
IS4 (d10-Phenanth)	100	100	90
IS5 (d12-Chrysene)	90	97	90
IS6 (d12-Perylene)	100	96	90
Sample RT/RRT	100	*	*
Napthalene			
Accuracy	100	96	90
Precision	100	99	90
No Group Matrix Effect	100	99	90
No Sample Matrix Effect	100	89	90
Tune Check	100	*	*
Overall ICAL Check	100	*	*
Overall CCAL Check	100	*	*
Overall Lab Blank Check	100	*	*

* - Level II QC checks were performed on 10% of samples prior to 6/14/93.
PTD completeness values do not apply to these checks.

TABLE 7-6

Completeness Summary
M03A Treated Water
PCB Analyses

SAMPLE DATE SET NUMBER	M03A0332 thru M03A0339	Project to Date	PROJECT GOAL
Extract Holding Time	100	100	100
Analysis Holding Time	100	100	100
12 Hour Window	100	100	100
SU Check - Column A	100	99	90
SU1 (DCBP)	100	88	NS
SU2 (TCMX)	100	97	NS
SU Check - Column B	100	98	90
SU1 (DCBP)	100	87	NS
SU2 (TCMX)	100	97	NS
SU Check - Column A or B	100	98	90
Aroclor 1242			
Accuracy	100	99	90
Precision	100	97	90
Overall ICAL Check	100	*	
Overall 1st CCAL Check	100	*	
Overall 2nd CCAL Check	100	*	
Overall Lab Blank Check	100	*	

* - Level II QC checks were performed on 10% of samples prior to 6/14/93.
PTD completeness values do not apply to these checks.

TABLE 7-7

Completeness Summary
M03A Treated Water
Metals Analyses

SAMPLE DATE SET NUMBER	M03A0332 thru M03A0339	PROJECT GOAL
ANALYTE: BARIUM		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: CADMIUM		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: CHROMIUM		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: COPPER		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: LEAD		
MS Accuracy	100	95
DUP Precision/Difference	86	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

W - All samples waived due to low response

* Matrix interference is indicated by:
Furnace analyses - failure of analytical spike or low MSA coefficient
ICP analyses - failure of serial dilution

TABLE 7-7 (Continued)

Completeness Summary
M03A Treated Water
Metals Analyses

SAMPLE DATE SET NUMBER	M03A0332 thru M03A0339	PROJECT GOAL
ANALYTE: MANGANESE		
MS Accuracy	86	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: NICKEL		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: SILVER		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: ZINC		
MS Accuracy	100	95
DUP Precision/Difference	86	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: MERCURY		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

W - All samples waived due to low response

* Matrix interference is indicated by:
Furnace analyses - failure of analytical spike or low MSA coefficient
ICP analyses - failure of serial dilution

TABLE 7-7 (Continued)

Completeness Summary
M03A Treated Water
Metals Analyses

SAMPLE DATE SET NUMBER	M03A0332 thru M03A0339	PROJECT GOAL
ANALYTE:ARSENIC		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: SELENIUM		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

W - All samples waived due to low response

* Matrix interference is indicated by:
Furnace analyses - failure of analytical spike or low MSA coefficient
ICP analyses - failure of serial dilution

TABLE 7-8

Completeness Summary
M03A Treated Water
Miscellaneous Parameters Analyses

SAMPLE DATE SET NUMBER	M03A0332 thru M03A0339	Project to Date	PROJECT GOAL
PARAMETER: TOC			
Analysis Hold Time	100	100	100
MS Accuracy	100	100	NA
DUP Precision	100	100	NA
PARAMETER: OILS			
Analysis Hold Time	100	100	100
MS Accuracy	100	100	NA
DUP Precision	100	100	NA
PARAMETER: TSS			
Analysis Hold Time	100	100	100
MS Accuracy	NA	NA	NA
DUP Precision	100	100	NA

8.0 SITE MAINTENANCE

8.1 Summary of Activities

8.1.1 General Housekeeping

The site safety and housekeeping inspections and responses kept grounds safe and attractive for employees and visitors.

8.1.2 Purchasing

All purchases were covered by written requisitions and purchase orders. Purchase of chemicals is now reduced to groundwater treatment and insitu remediation.

A work release was issued to Layne Environmental Drilling to drill and complete four INT wells at the west end north of Gulf Pump Road and two INT wells in the landfill.

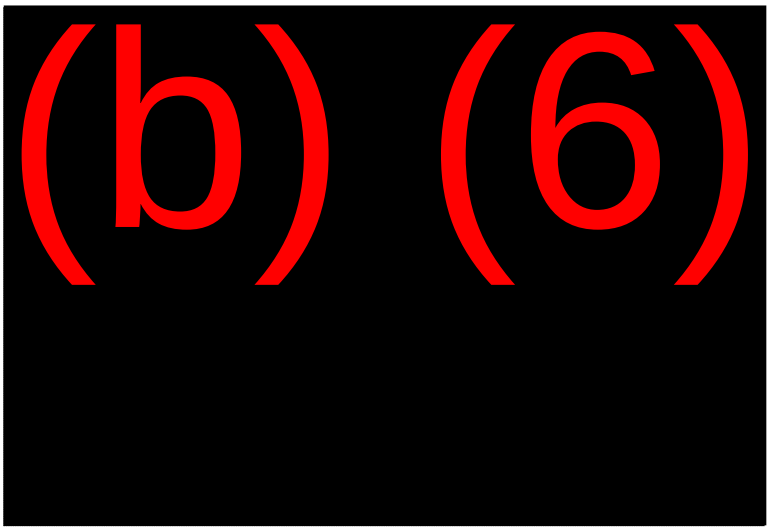
8.1.3 Equipment Maintenance

Routine preventive and production maintenance was performed on all equipment.

8.2 Visitors

The following visitors were recorded at the site during June:

June 3: Institute of Environmental Technology:



June 5: Jim Thomson, AHA
Judith Black, EPA
Marc Jewett, Fermco/DOE
Dennis Carr, Fermco/DOE
(b) (6), BSCHOOL

June 6: Marc Jewett, Fermco
Dennis Carr, Fermco
Judith Black, EPA

June 7: John Cox, EBS
Greg Brewer, AATS
Chip Boxley, Texas Tree
Kenneth Kirsch, Texas Tree

June 8: Jim Bonner, TAMU
Robin Jamail,TGLO

June 13: Carol Bandy

June 14: Dwayne Griffin, Texas Trees
Mike Pitre, Environgen

June 15: (b) (6), BSCHOOL
Maureen Valenza, ACC

June 21: Jeff Herman, ALH
A.W. Breathwirt, Breathren Maure
Audry Hongland, ALH

June 23: Stephanie Hrabar, GEMS[2]
Clyde Brown, PSS
Warren Franz, ARGO
David High, BPA
Ted Davis, Alliance

June 22: Bonny Crews, AEPT
(b) (6), resident

June 26: (b) (6), BSCHOOL

June 27: (b) (6), BSCHOOL
(b) (6) BSCHOOL

June 30: Al Goodlow, Barrett Station Chamber of Commerce

8.3 Emergency Equipment

8.3.1 Flood Gate Test

The flood gate was exercised on June 26, 1995, with one small leak detected at the threshold.

8.3.2 P-8 Auxiliary Pump

P-8 Auxiliary Pump has been converted to the lagoon ground cover vegetation sprinkler source. It has operated approximately 80 hours in June.

8.3.3 Fire Extinguishers

All fire extinguishers were inspected and certified.

8.4 Security

Smith Security provides 24-hour security at the FLTG site, including the south side of Gulf Pump Road; all site areas are checked hourly. No incidents reported by Security in June.

8.5 Operator Training

All training is documented and records are maintained on site.

8.6 Data Management

Data base is fully operational. Data is entered on a daily basis.

8.7 Personnel Monitoring

Results of personnel monitoring conducted during June are included in Table 8-1. A Tenax tube was set in the T-101 work area during personnel monitoring. These results are included in this table.

8.8 OVM System

Work areas are being monitored daily with Organic Vapor Monitor 580A.

8.9 Repository

Records from the June review are listed in Attachment 8A.

8.10 Meteorological Data

The meteorological data is generated on a weekly basis.

Rainfall data is listed in Table 8-2.

TABLE 8-1

On-Site Employee Contaminant Limits
(From OSHA 29 CFR 1910 Subpart Z)

Compound	PEL 8 hour PPM	1 7-Jun-95 WTP Operator % of PEL	1 7-Jun-95 WTP Operator PPM	2 7-Jun-95 Well Maintenance % of PEL	2 7-Jun-95 Well Maintenance PPM	3 7-Jun-95 T-101 Area % of PEL	3 7-Jun-95 T-101 Area PPM
Chloromethane	50	0.003	0.002	0.009	0.004	0.003	0.002
Bromomethane	5	0.000	0.000	0.000	0.000	0.004	0.000
Vinyl chloride	1	0.000	0.000	0.000	0.000	0.000	0.000
Chloroethane	1000	0.000	0.000	0.000	0.000	0.000	0.000
Dichloromethane	50	0.007	0.003	0.003	0.001	0.002	0.001
Acetone	750	0.001	0.004	0.000	0.002	0.000	0.001
Carbon disulfide	10	0.000	0.000	0.000	0.000	0.002	0.000
1,1-Dichloroethene	5	0.000	0.000	0.000	0.000	0.000	0.000
1,1-Dichloroethane	100	0.000	0.000	0.000	0.000	0.001	0.001
trans-1,2-Dichloroethe	200	0.000	0.001	0.000	0.000	0.002	0.003
Chloroform	10	0.011	0.001	0.000	0.000	0.217	0.022
1,2-Dichloroethane	10	0.000	0.000	0.000	0.000	0.008	0.001
2-Butanone	200	0.000	0.001	0.000	0.000	0.000	0.000
1,1,1-Trichloroethane	350	0.000	0.000	0.000	0.000	0.000	0.000
Carbon Tetrachloride	5	0.000	0.000	0.000	0.000	0.031	0.002
Vinyl acetate	10	0.000	0.000	0.000	0.000	0.006	0.001
Bromodichloromethane			0.000		0.000		0.000
1,2-Dichloropropane	75	0.000	0.000	0.000	0.000	0.000	0.000
cis-1,3-Dichloropropen	1	0.000	0.000	0.000	0.000	0.000	0.000
Trichloroethene	50	0.000	0.000	0.000	0.000	0.000	0.000
Dibromochloromethane			0.000		0.000		0.000
1,1,2-Trichloroethane	10	0.000	0.000	0.000	0.000	0.000	0.000
Benzene	1	0.124	0.001	0.014	0.000	0.032	0.000
trans-1,3-Dichloroprop	1	0.000	0.000	0.000	0.000	0.000	0.000
2-Chloroethylvinyl ether			0.000		0.000		0.000
Bromoform	0.5	0.000	0.000	0.000	0.000	0.000	0.000
4-Methyl-2-pentanone	50	0.000	0.000	0.000	0.000	0.000	0.000
2-Hexanone	5	0.000	0.000	0.000	0.000	0.000	0.000
Tetrachloroethene	50	0.000	0.000	0.000	0.000	0.000	0.000
1,1,2,2-Tetrachloroet	1	0.000	0.000	0.000	0.000	0.000	0.000
Toluene	100	0.000	0.000	0.000	0.000	0.000	0.000
Chlorobenzene	10	0.000	0.000	0.000	0.000	0.000	0.000
Ethylbenzene	100	0.000	0.000	0.000	0.000	0.000	0.000
Styrene	50	0.000	0.000	0.000	0.000	0.000	0.000
Xylene (total)	100	0.000	0.000	0.000	0.000	0.000	0.000
Hexane			0.006		0.001		0.001

TABLE 8-2

Rainfall Data for June, 1995

Day	Rain Total (Inches)
1	0.07
2	0.64
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.13
11	1.04
12	0.00
13	0.00
14	0.00
15	0.00
16	0.00
17	0.09
18	0.39
19	0.00
20	0.00
21	0.00
22	0.00
23	0.00
24	0.00
25	0.00
26	0.00
27	0.00
28	0.55
29	1.91
30	0.12
Total Rainfall	4.94

ATTACHMENT 8A

Repository Status Report: June, 1995

REPOSITORY STATUS REPORT: June, 1995

At the Rice University Library...

1. Remedial Investigation Report April, 1985

2. Remedial Investigation Report Appendices, Volume II, April, 1985

3. Remedial Investigation Report June, 1986 (Updated from April, 1985)

4. Remedial Investigation Report Appendices, Volume I, February, 1986 (Revised June, 86)

5. Remedial Investigation Report Appendices, Volume II, February, 1986 (Revised June, 1986)

6. Remedial Investigation Report Appendices, Volume III, February, 1986

7. 1986 Field Investigation and Supplemental Remedial Investigation Report Volume I, December, 1986

8. 1986 Field Investigation and Supplemental Remedial Investigation Report French Limited Site Volume II, Appendices December, 1986

9. 1986 Field Investigation Hydrology Report, December 19, 1986

10. Endangerment Assessment Report February, 1987

11. Endangerment Assessment Report April 1987 (Updated from February, 1987)

12. Feasibility Study Report, March 1987

13. In Situ Biodegradation Demonstration Report Volume I Executive Summary, October 30, 1987 Revised 11-11-87

14. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume I, November 30, 1987

15. In Situ Biodegradation Demonstration Report Volume II, October 30, 1987 (Revised February 1, 1988 at Site only)

16. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume II, November 30, 1987 + Appendices

17. In Situ Biodegradation Demonstration Report Volume III Appendices, October 30, 1987

18. In Situ Biodegradation Demonstration Report Volume III, Appendices, Supplemental Report, November 30, 1987

19. In Situ Biodegradation Demonstration Report French Limited Site, Volume IV October 30, 1987 + Appendices

20. In Situ Biodegradation Demonstration Supplemental Report French Limited Site, Volume IV November 30, 1987 + Appendices

21. In Situ Biodegradation Demonstration Report French Limited Site Volume V, October 30, 1987

22. In Situ Biodegradation Demonstration Report French Limited Site Volume V Appendices, November 30, 1987 - Supplemental Report

23. In Situ Biodegradation Demonstration Report French Limited Site Volume VI Appendices, October 30, 1987

24. In Situ Biodegradation Demonstration Report French Limited Site Volume VII Appendices, October 30, 1987

25. In Situ Biodegradation Demonstration Report French Limited Site Volume VIII Appendices, October 30, 1987

26. In Situ Biodegradation Demonstration Report French Limited Site Volume IX Appendices, October 30, 1987

27. In Situ Biodegradation Demonstration Report French Limited Site Volume X Appendices, October 30, 1987

28. In Situ Biodegradation Demonstration Report French Limited Site Volume XI Appendices, October 30, 1987

29. In Situ Biodegradation Demonstration Report French Limited Site Volume XII Appendices, October 30, 1987

30. In Situ Biodegradation Demonstration Report French Limited Site Volume XIII Appendices, October 30, 1987

31. In Situ Biodegradation Demonstration Report French Limited Site Volume XIV Appendices, October 30, 1987

32. In Situ Biodegradation Demonstration Report French Limited Site Volume XV Appendices, October 30, 1987

33. In Situ Biodegradation Demonstration Report French Limited Site Volume XVI Appendices, October 30, 1987

34. In Situ Biodegradation Demonstration Report French Limited Site Volume XVII Appendices, October 30, 1987

35. In Situ Biodegradation Demonstration Report French Limited Site Volume XVIII Appendices, October 30, 1987

36. Proposed In Situ Biodegradation Demonstration French Limited Site Phase III, April, 1987

37. In Situ Bioremediation Demonstration French Limited April, 1987 Monthly Report, Equipment Evaluation Phase IV

38. In Situ Bioremediation Demonstration French Limited May, 1987 Monthly Report, Equipment Evaluation Phase IV

39. In Situ Bioremediation Demonstration French Limited June, 1987 Monthly Report, Equipment Evaluation Phase IV

40. In Situ Bioremediation Demonstration French Limited July, 1987 Monthly Report, Equipment Evaluation Phase IV

41. In Situ Bioremediation Demonstration French Limited August, 1987 Monthly Report, Equipment Evaluation Phase IV

42. In Situ Bioremediation Demonstration French Limited November, 1987 Monthly Report, Equipment Evaluation Phase IV

43. In Situ Bioremediation Demonstration French Limited December, 1987 Monthly Report, Equipment Evaluation Phase IV

44. In Situ Bioremediation Demonstration French Limited January, 1988 Monthly Report, Equipment Evaluation Phase IV

45. In Situ Bioremediation Demonstration French Limited February, 1988 Monthly Report, Equipment Evaluation Phase IV

46. In Situ Bioremediation Demonstration French Limited March, 1988 Monthly Report, Equipment Evaluation Phase IV

47. In Situ Bioremediation Demonstration French Limited April, 1988 Monthly Report, Equipment Evaluation Phase IV

48. In Situ Biodegradation Demonstration French Limited May/June 1988 Monthly Report, Equipment Evaluation Phase IV

49. In Situ Bioremediation Demonstration French Limited July, 1988 Monthly Report, Equipment Evaluation Phase IV

50. In Situ Bioremediation Demonstration French Limited August, 1988 Monthly Report, Equipment Evaluation Phase IV

51. In Situ Bioremediation Demonstration French Limited September, 1988 Monthly Report, Equipment Evaluation Phase IV

52. Supplemental Biodegradation Equipment Evaluation French Limited Site - Phase IV, September 26, 1988

53. In Situ Biodegradation Demonstration Phase III Quality Assurance Project Plan for French Limited Site, March, 1987

54. Addendum to Quality Assurance Project Plan for the French Limited Site In Situ Biodegradation Demonstration Phase III, February 16, 1990

55. Site Safety and Health Plan French Limited Site - Phase III, April 1987 (Revision 2)

56. Remedial Action Plan Volume I - April, 1990

57. Remedial Action Plan Volume I - September, 1990 (Updated from April, 1990)

58. Remedial Action Plan Volume II Quality Assurance April, 1990

59. Remedial Action Plan Volume II Quality Assurance September, 1990 (Updated from April 1990) Revised June 3, 1991

60. Remedial Action Plan Volume II Quality Assurance June, 1990 Appendix A - Quality Assurance Sampling Procedures and Appendix B - Analytical Methods - B.1 - B.53, September 22, 1989 Revised September 28, 1990

61. Remedial Action Plan Volume III - Health and Safety, July 20, 1990

62. Remedial Action Plan Volume IV - Spill and Volatile Organic Release Contingency Plan (April 6, 1990)

63. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, May, 1990
Page v.i.3 Missing

64. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, July 20, 1990, (Updated from May, 1990)

65. 1988 Equipment Evaluation Phase IV Report French Limited Site: Volume I, February 1,1990

66. 1988 Equipment Evaluation Phase IV Report French Limited Site: Volume II, February 1, 1990

67. 1988 Slough Investigation Report French Limited Site, October 1988

68. Ambient Air Impact Risk Assessment Report, May 5, 1989

69. Workplan for the Shallow Aquifer Pumping Tests for the French Limited Site, July 22, 1988
Page 80 Missing

70. French Limited Site Hurricane Gilbert Preparation Report, October, 1988

71. Potable Water Well Installation Report French Limited Site, December 7, 1988

72. Bioresidue Fixation Alternatives Evaluation Report French Limited Site March 20, 1989

73. Hydrogeologic Characterization Report, March 1989

74. Hydrogeologic Characterization Report - Appendices, March 1989

75. San Jacinto River May 19, 1989 Flood Event Report, June 1989

76. Post San Jacinto River May 1989 Flood Event Soils and Water Analysis Program - Volume I, August 16, 1989

77. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume II Appendix A

78. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume III Appendix A, August 16, 1989

79. *Riverdale Lake Area Remediation Program* August 15, 1989

80. Flood and Migration Control Wall Design Report, August 16, 1989

81. Flood and Migration Control Wall Design Report Appendix C Access Way Design, September, 1989

82. North Pit Remediation Report French Limited Site, November 6, 1989

83. Installation Report for Flood and Migration Control Wall, January 8, 1990

84. Installation Report for Flood and Migration Control Wall
Appendix A - ENSR Site Logs

85. Installation Report for Flood and Migration Control Wall
Appendix B - Inspection Reports

86. Installation Report for Flood and Migration Control Wall Appendix C - Pile Driving Inspection Report January 8, 1990

87. Flood Wall Gate Test Report French Limited Site, February 1990

88. French Limited Remediation Design Report - Executive Summary Bioremediation/Shallow Aquifer, July, 1991

89. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume I of III - Summary Report and Appendices A-H, July 1991

90. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume II of III - Appendices I-M, June 1991

91. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume III of III - Appendices N-P, June 1991

92. Bioremediation Facilities Design Report Volume II of IV Appendices, Reports and Calculations (March 20, 1991)

93. Bioremediation Facilities Design Report Volume III of IV
Appendix E - Design Specifications (March 20, 1991)

94. Bioremediation Facilities Design Report Volume IV of IV - Air Monitoring, March 20, 1991

95. Public Health Assessment for French Limited March 30, 1993 from U.S. Department of Health and Human Services

96. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 1, Report, Appendices A-E

97. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 2, Appendix F

98. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 3, Appendix F continued

99. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 4, Appendix G

100. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 5, Appendix H

101. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 6, Appendix H continued

102. Record of Public Meeting Regarding Remedial Investigation and Feasibility Study (5-21-87)

103. Summary of Remedial Alternative Selection 1988

104. Declaration for the Record of Decision 1988

105. Record of Public Meeting Regarding Remedial Investigation and Feasibility Study (2-11-88) (Updated from June 21, 1987)

106. Consent Decree between the Federal Government and the FLTG

107. French Limited Superfund Site Community Relations Revised Plan August, 1989 - Jacob's Engineering

108. Results of the French Limited Task Group Survey (Goldman and Company) April, 1987

109. Goldman Public Relations Clipping Report

110. BioGEE International, Inc., Project Report Biotreatability Study Using Isolated Indigenous Organisms, April, 1994

111. Field Evaluation of Biodegradation at the French Limited Site (Phase II) Volume I

112. Laboratory Evaluation of Biodegradation at the French Limited Site

113. French Limited Site Focused Feasibility Study (May 1987)

114. Annual Groundwater Monitoring Report, December 1993, Report and Appendices A-B

115. Annual Groundwater Monitoring Report, December 1993, Appendices C-H

116. DNAPL Study Remedial Alternative Selection and Feasibility Study Report, November 1994

117. Cell E and Cell D/F Remediation Verification Report

118. French Limited Wetlands Mitigation, Final Site Restoration Plan

119. French Limited Wetlands Mitigation, Site Selection Report

120. French Limited Wetlands Mitigation, 404 and 401 Permit Application, U.S. Army Corps of Engineers, Galveston, TX

121. Quality Assurance Report, February 15, 1993, Report No. QA93003

122. Quality Assurance Report, January 20, 1994, Report No. QA94001

123. Environmental Protection Agency, Region VI, Hazardous Waste Management Division, First Five Year Review (Type Ia), CERCLIS TXD-980514814, December 1994

124. ARCS, French Limited Site 1993, Annual Groundwater Sampling and Comparison Report, CH2M Hill, January, 1995

125. Annual Groundwater Monitoring Report, December, 1994, Report and Appendices A-G

126. Superfund Preliminary Site Closeout Report CERCLIS TXD-980514814, September, 1994

127. Environmental Protection Agency, Split Sampling and Analysis for Cell D/F, French Limited Site, EPA Contract No: 68-W8-0112, March 1995

128. Monthly Progress Report, January 1992

129. Monthly Progress Report, January, 1992 Appendices A-C

130. Monthly Progress Report, January, 1992 Appendices E, F

131. Monthly Progress Report, January, 1992 Appendices G

132. Monthly Progress Report, February, 1992

133. Monthly Progress Report, February, 1992 Appendices A-B

134. Monthly Progress Report, February, 1992 Appendices C 1

135. Monthly Progress Report, February, 1992 Appendices C 2

136. Monthly Progress Report, February, 1992 Appendices D-E

137. Monthly Progress Report, March, 1992

138. Monthly Progress Report, March, 1992, Appendix A

139. Monthly Progress Report, April, 1992

140. Monthly Progress Report, April, 1992, Appendices A-B

141. Monthly Progress Report, May, 1992

142. Monthly Progress Report, May, 1992, Appendices A-B

143. Monthly Progress Report, June, 1992

144. Monthly Progress Report, June, 1992, Appendices A-B

145. Monthly Progress Report, July 1992

146. Monthly Progress Report, July 1992, Appendices A-B

147. Monthly Progress Report, July 1992, Appendices B1-B22 Vol. 1 of 3

148. Monthly Progress Report, July 1992, Appendices B1-B22 Vol. 2 of 3

149. Monthly Progress Report, July 1992, Appendices B1-B22 Vol. 3 of 3

150. Monthly Progress Report, August, 1992

151. Monthly Progress Report, August, 1992, Appendices A-B

152. Monthly Progress Report, September, 1992

153. Monthly Progress Report, September, 1992, Appendices A-B

154. Monthly Progress Report, October, 1992

155. Monthly Progress Report, October, 1992, Appendices A-B

156. Monthly Progress Report, November, 1992

157. Monthly Progress Report, November, 1992 Appendices A-B

158. Monthly Progress Report, December, 1992

159. Monthly Progress Report, December, 1992 Appendices A, B

160. Monthly Progress Report, January, 1993

161. Monthly Progress Report, February, 1993

162. Monthly Progress Report, March, 1993

163. Monthly Progress Report, April, 1993

164. Monthly Progress Report, May, 1993

165. Monthly Progress Report, June, 1993

166. Monthly Progress Report, July, 1993

167. Monthly Progress Report, August, 1993

168. Monthly Progress Report, September, 1993

169. Monthly Progress Report, October, 1993

170. Monthly Progress Report, November, 1993

171. Monthly Progress Report, December, 1993

172. Monthly Progress Report, January, 1994

173. Monthly Progress Report, February, 1994

174. Monthly Progress Report, March, 1994

175. Monthly Progress Report, April, 1994

176. Monthly Progress Report, May, 1994

177. Monthly Progress Report, June, 1994

178. Monthly Progress Report, July, 1994

179. Monthly Progress Report, August, 1994

180. Monthly Progress Report, September, 1994

181. Monthly Progress Report, October, 1994

182. Monthly Progress Report, November, 1994

183. Monthly Progress Report, December, 1994

184. Monthly Progress Report, January, 1995

185. Monthly Progress Report, February, 1995

186. Monthly Progress Report, March, 1995

187. Monthly Progress Report, April, 1995

188. Monthly Progress Report, May, 1995

At the Crosby library...

1. Remedial Investigation Report - June, 1986

2. Remedial Investigation Appendices Volume I June, 1986 Revised from Feb. 1986

3. Remedial Investigation Appendices Volume II June, 1986 Revised from Feb. 1986

4. Remedial Investigation Appendices Volume III February, 1986
   Pages 1 and 2 of 10 Res. Engr Tab Missing
   Analytical Report Worksheet 7-8-9-10 Missing
   Pages 1 and 2 of 6 Missing
   Tab 9 H 1-8 Missing, H 11-19 Missing, Page 1 of 10 Missing
   Page 3 Worksheet Missing
   Tab 10 H 1-3 Missing, Page 3-6 of 6 Missing, Page 1-6 Missing
   Tab 12 Page 2-10 of 10 Missing

5. Field Investigation and Supplemental Remedial Investigation Report, Volume I, December, 1986

6. Field Investigation and Supplemental Remedial Investigation Report, Volume II, Appendices, December 1986

7. Field Investigation Hydrology Report, December 19, 1986

8. Feasibility Study Report, March 1987

9. Feasibility Study Report, March 1987

10. French Limited Site Focused Feasibility Study, May 1987

11. Endangerment Assessment Report February 1987

12. Endangerment Assessment Report April 1987

13. Endangerment Assessment Report April 1987

14. In Situ Biodegradation Demonstration Report Volume I Executive Summary October, 1987 (Revised 12-15-87)

15. In Situ Biodegradation Demonstration Report Volume II October 30, 1987

16. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume I, November 30, 1987
Missing Supplements to 5-6 and 7 to 10

17. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume II, November 30, 1987 + Appendices

18. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume III, November 30, 1987 + Appendices

19. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume IV, November 30, 1987 -Appendices

20. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume V - Appendices, November 30, 1987

21. Results of the French Limited Task Group Survey (Goldman and Company) April 1987

22. Goldman Public Relations Clipping Report

23. Consent Decree between the Federal Government and the FLTG

24. Consent Decree between the Federal Government and the FLTG

25. Laboratory Evaluation of Biodegradation at the French Limited Site, December 1986.

26. Field Evaluation of Biodegradation at the French Limited Site (Phase II) Volume I, March, 1987

27. Bioremediation Facilities Design Report Volume II of IV Appendices, Reports and Calculations March 20, 1991

28. Bioremediation Facilities Design Report Volume III of IV Appendix E - Design Specifications March 20, 1991

29. Bioremediation Facilities Design Report Volume IV of IV Air Monitoring, March 20, 1991

30. Remedial Action Plan Volume I, September 28, 1990

31. Remedial Action Plan Volume II - Quality Assurance, Revised June 3, 1991

32. Remedial Action Plan Volume II - Appendix A - Quality Assurance Sampling Procedures and Appendix B - Analytical Methods - B.1 - B.53, September 28, 1990

33. Remedial Action Plan Volume III - Health and Safety, July 20, 1990

34. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, July 20, 1990

35. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, July 20, 1990

36. Hydrogeologic Characterization Report, March 1989

37. Hydrogeologic Characterization Report Appendices, March 1989

38. Supplemental Biodegradation Equipment Evaluation French Limited Site - Phase IV, September 26, 1988

39. Equipment Evaluation Phase IV Report French Limited Site: Volume I, February 1, 1990

40. Equipment Evaluation Phase IV Report French Limited Site: Volume II, February 1, 1990

41. Site Safety and Health Plan French Limited Site - Phase III, April 1987 (Revision 2)

42. San Jacinto River May 19, 1989 Flood Event Report, June 1989

43. Post San Jacinto River May 1989 Flood Event Soils and Water Analysis Program Volume I, August 16, 1989

44. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume II, Appendix A

45. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume III, Appendix A, August 16, 1989

46. Slough Investigation Report French Limited Site, October 1988

47. Flood and Migration Control Wall Design Report, August 16, 1989

48. Flood and Migration Control Wall Design Report (Flood is spelled incorrectly on Volume Cover) + Appendix C - Access way Design September 1989

49. Installation Report for Flood and Migration Control Wall January 8, 1990

50. Installation Report for Flood and Migration Control Wall
Appendix A - ENSR Site Logs

51. Installation Report for Flood and Migration Control Wall
Appendix B - Inspection Reports

52. Installation Report for Flood and Migration Control Wall
Appendix C - Pile Driving Inspection Report January 8, 1990

53. Flood Wall Gate Test Report French Limited Site, February 1990

54. North Pit Remediation Report French Limited Site, November 6, 1989

55. Workplan for the Shallow Aquifer Pumping Tests for the French Limited Site, July 22, 1988
(Additional Title - Pumping Test Program for Shallow Alluvial Aquifer Zone)

56. French Limited Site Hurricane Gilbert Preparation Report October, 1988

57. Riverdale Lake Area Remediation Program, August 15, 1989

58. Addendum to Quality Assurance Project Plan for the French Limited Site In Situ Biodegradation Demonstration Phase III, February 16, 1990

59. Potable Water Well Installation Report French Limited Site, December 7, 1988

60. Bioresidue Fixation Alternatives Evaluation Report French Limited Site March 20, 1989

61. Ambient Air Impact Risk Assessment Report, May 5, 1989

62. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume I of III - Summary Report and Appendices A-H, July 1991

63. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume II of III - Appendices I-M, June 1991

64. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume III of III - Appendices N-P, June 1991

65. French Ltd. Remediation Design Report Executive Summary Bioremediation Shallow Aquifer July 1991

66. BioGEE International, Inc., Project Report Biotreatability Study Using Isolated Indigenous Organisms, April 15, 1994

67. Black EPA Binder

68. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 1, Report, Appendices A-E

69. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 2, Appendix F

70. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 3 Appendix F continued

71. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 4, Appendix G

72. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 5, Appendix H

73. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 6, Appendix H continued

74. Equipment Evaluation Phase IV Report November, 1987 Monthly Report

75. Equipment Evaluation Phase IV Report December, 1987 Monthly Report

76. Microfiche Field Reports 1988 -small box

77. Annual Groundwater Monitoring Report, December 1993, Report and Appendices A-B

78. Annual Groundwater Monitoring Report, December 1993, Appendices C-H

79. DNAPL Study Remedial Alternative Selection and Feasibility Study Report, November 1994

80. Cell E and Cell D/F Remediation Verification Report

81. French Limited Wetlands Mitigation, Final Site Restoration Plan

82. French Limited Wetlands Mitigation, Site Selection Report

83. French Limited Wetlands Mitigation, 404 and 401 Permit Application, U.S. Army Corps of Engineers, Galveston, TX

84. Quality Assurance Report, February 15, 1993, Report No. QA93003

85. Quality Assurance Report, January 20, 1994, Report No. QA94001

86. Environmental Protection Agency, Region VI, Hazardous Waste Management Division, First Five Year Review (Type Ia), CERCLIS TXD-980514814, December 1944

87. ARCS, French Limited Site 1993, Annual Groundwater Sampling and Comparison Report, CH2M Hill, January, 1995

88. Annual Groundwater Monitoring Report, December, 1994, Report and Appendices A-G

89. Superfund Preliminary Site Closeout Report CERCLIS TXD-090514814, September, 1994

90. Environmental Protection Agency, Split Sampling and Analysis for Cell D/F, French Limited Site, EPA Contract No: 68-W8-0112, March 1995

91. Monthly Progress Report, January, 1992

92. Monthly Progress Report, January, 1992, Appendices A-C

93. Monthly Progress Report, January, 1992, Appendices E-F

94. Monthly Progress Report, January, 1992, Appendix G

95. Monthly Progress Report, February, 1992

96. Monthly Progress Report, February, 1992, Appendices A-B

97. Monthly Progress Report, February, 1992, Appendices C 1

98. Monthly Progress Report, February, 1992 Appendices C 2

99. Monthly Progress Report, February, 1992 , Appendices D-E

100. Monthly Progress Report, March, 1992

101. Monthly Progress Report, March, 1992, Appendix A

102. Monthly Progress Report, April, 1992

103. Monthly Progress Report, April, 1992, Appendices A-B

104. Monthly Progress Report, May, 1992

105. Monthly Progress Report, May, 1992, Appendices A-B

106. Monthly Progress Report, June, 1992

107. Monthly Progress Report, June, 1992, Appendices A-B

108. Monthly Progress Report, July, 1992

109. Monthly Progress Report, July, 1992, Appendices A-B

110. Monthly Progress Report, July, 1992, Appendices B1-B22 Vol. 1 of 3

111. Monthly Progress Report, July, 1992, Appendices B1-B22 Vol. 2 of 3

112. Monthly Progress Report, July, 1992, Appendices B1-B22 Vol. 3 of 3

113. Monthly Progress Report, August, 1992

114. Monthly Progress Report, August, 1992, Appendices A-B

115. Monthly Progress Report, September, 1992

116. Monthly Progress Report, September, 1992, Appendices A-B

117. Monthly Progress Report, October, 1992

118. Monthly Progress Report, October, 1992, Appendices A-B

119. Monthly Progress Report, November, 1992

120. Monthly Progress Report, November, 1992, Appendices A-B

121. Monthly Progress Report, December, 1992

122. Monthly Progress Report, December, 1992, Appendices A-B

123. Monthly Progress Report, January, 1993

124. Monthly Progress Report, February, 1993

125. Monthly Progress Report, March, 1993

126. Monthly Progress Report, April, 1993

127. Monthly Progress Report, May, 1993

128. Monthly Progress Report, June, 1993

129. Monthly Progress Report, July, 1993

130. Monthly Progress Report, August, 1993

131. Monthly Progress Report, September, 1993

132. Monthly Progress Report, October, 1993

133. Monthly Progress Report, November, 1993

134. Monthly Progress Report, December, 1993

135. Monthly Progress Report, January, 1994

136. Monthly Progress Report, February, 1994

137. Monthly Progress Report, March, 1994

138. Monthly Progress Report, April, 1994

139. Monthly Progress Report, May, 1994

140. Monthly Progress Report, June, 1994

141. Monthly Progress Report, July, 1994

142. Monthly Progress Report, August, 1994

143. Monthly Progress Report, September, 1994

144. Monthly Progress Report, October, 1994

145. Monthly Progress Report, November, 1994

146. Monthly Progress Report, December, 1994

147. Monthly Progress Report, January, 1995

148. Monthly Progress Report, February, 1995

149. Monthly Progress Report, March, 1995

150. Monthly Progress Report, April, 1995

151. Monthly Progress Report, May, 1995

12 Large Brown Folders:

1. Administrative Record Index - 2 folders
   Administrative Record 09-26-79 thru 05-29-83
   Administrative Record 06-03-83 thru 11-28-83
   Administrative Record 02-28-84
   Administrative Record 03-09-84
   Technical Comments on Remediation Investigation Report 2-84
   Supplemental Investigation - Resource Engr. 1-84
   Administrative Record 3-9-84

2. Administrative Record 08-31-84
   Administrative Record 10-29-84 thru 01-22-85
   French Ltd. Technical and Regulatory Concepts for In-Place Closure, 09-84
   Supplementary Investigation, May 1984
   French Ltd. Field Activities Work Plan, February 1985
   Supplementary Investigation Attachments, May 1985

3. Administrative Record 02-04-85
   Remedial Investigation, Vol. I Report, April 1985
   Remedial Investigation, Vol. II Appendices, April 1985

4. Administrative Record 04-08-85 thru 11-26-85
   Administrative Record 02-14-86 thru 04-04-86
   Technical Report for Resource Engineering, 12-03-85
   Appendix QA Program for French Ltd., 12-18-85
   1985 Field Investigation Report Appendices, January, 1986
   1985 Field Investigation Report , January, 1986

5. Administrative Record 04-01-86
Remedial Investigation Report Appendices, Vol. II, April, 1986

6. Administrative Record 4-1-86

7. Administrative Record 05-08-86 thru 05-12-86
Administrative Record 06-01-86
Administrative Record 01-05-87
Remedial Investigation Report, June 1986
Laboratory Evaluation of Biodegradation, 12-86
1986 Field Investigation Hydrology Report, 12-86
Endangerment Assessment Report, 2-87

8. Feasibility Study, March 1987

9. Administrative Report 03-11-87 thru 03-25-87
Administrative Report 4-1-87
Administrative Report 4-7-87
In Situ Biodegradation Demonstration Phase III QA Project Plan 3-87
Endangerment Assessment Report, 4-87
Proposed In Situ Biodegradation Demonstration French Limited Site Phase III 4-87

10. Administrative Report 4-15-87 thru 5-I-87
Administrative Report 5-21-87 thru 7-2-87
French Limited Focused Feasibility Study, ERT 5-87
Revised Field Evaluation of Biodegradation at French Site Phase II Vol. I
-Revised 7-10-87

11. Administrative Report 7-20-87 - 11-23-87
Administrative Report Undated Documents 000122-000134
In Situ Biodegradation Demonstration Report Vol. I Executive Summary 10-87
French Limited Site Work Plan Vol. I Project Activities and Sample Plan

12. Texas Air Control Board Regulations I thru IX
Standard Exemption List
Application for Permit

During the month of **June**, the status of both libraries have been reviewed and the above information found to be accurate.

9.0 WETLANDS RESTORATION

9.1 Summary of Activities and Progress

Conducted safety meetings at the start of each work shift; inspected all equipment for safety compliance each shift; used daily lottery ticket safety awareness program.

Updated site work plan based on field progress.

Some dewatering was required after each significant rainfall; generally dry weather allowed good excavation progress.

Completed flow channel excavation.

Completed final grading and topsoil application.

Opened the flow channels to the river.

Started acclamation of the saline marsh zone in preparation for re-vegetation.

Conducted five site tours for interested parties.

Continued work on a video of the project; interviewed key players on the project.

Reviewed the project status, progress, and issues with the agency review committee; the agencies are satisfied with site progress.

Sampled and analyzed the 80 yd^3 of soils excavated from the affected area; this soil was classified as class II, non-hazardous; the soil was profiled, manifested and shipped to an approved waste disposal site.

9.2 Problem Areas and Solutions

Problem	Solution
Safety awareness	Daily safety meeting; lottery ticket program; frequent equipment inspections.
Excavation in wet, soft areas.	Revise work schedule to allow drainage; pump water on "off" days.
Affected soil in excavation area.	Isolate area; sample and analyze affected soils; relocate tidal channel; review response options with City of Baytown.

9.3 Problems Resolved

Problem	Solution
Excavation during wet weather.	Completed all excavation and other civil work.

9.4 Deliverables Submitted

June, 1995, Monthly Report.

9.5 Upcoming Events and Activities

Daily safety program.

Saturate marsh zone.

Re-vegetate marsh zone.

Support Baytown response plan for the remaining affected soil.

Continue re-vegetation.

Develop forecast of maintenance requirements.